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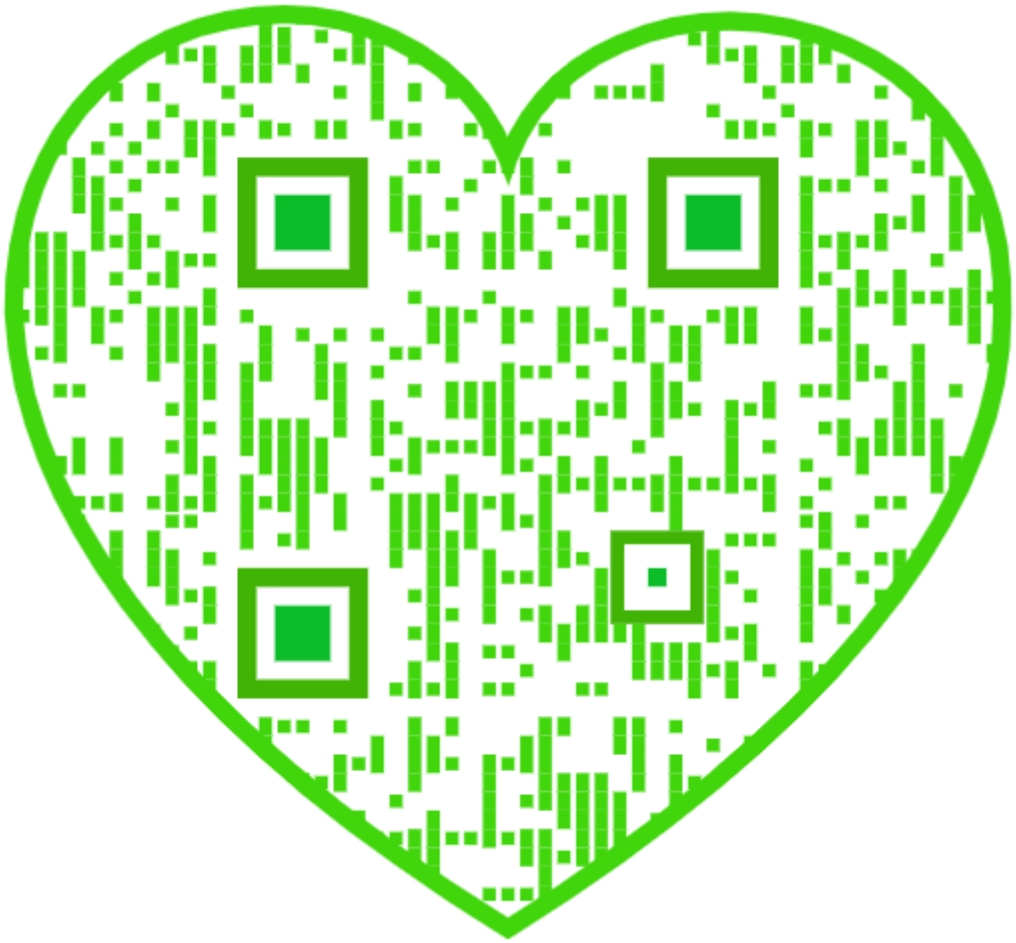

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AND BEE-KEEPERS' ADVISER.

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INDEX.

ABOUT OUR BEES:—Races of Bees, 12: Bee-Products—Honey and Wax, 32; Wax Adulterants, 54; Propolis, 55; Bee Appliances, 55, 74; Practical, 93; Manipulating Bees, 94; How and when to Manipulate, 94; Spreading Brood, 113, 145; Spring Feeding, 113; Natural and Artificial Increase, 132; Forming Nuclei, 152; Honey Production, 173; Supering, 213; Selling Honey, 274; Queen-rearing, 291; Winter Necessities, 334; Bee Diseases, 383

Adulterated Honey at Maerdy, 338

After the Winter, 91

Among the Bees, Subjugators, 513

Afternoon among the Bees, 252

Agricultural Association, Cornwall, 243

Agricultural Association, Leicester, Meeting, 251

Air-bubbles in Extracted Honey, 398

American Honey Confectionery, 468

ANTS:—Ridding Hives of, 20; in hives, 60; in Honey Houses, 30

Apiary, moving an, 497

Apiaries, of our Readers, 441, 481, 485

Apiaries, House, 6, 98

" Light Railways in, 77

Apiculture, Russian, 464

Appeal to Exhibitors, 131

" Scottish Bee-keepers, 176

Appeal to Cumberland Bee-keepers, 204

Appointment of Secretary, B.B.K.A., 22

Appointment of Council for 1896, 61

Appliance-makers and their customers, 242, 245, 249

Artificial swarms, 20, 27, 196, 277, 296; Honey, 450; Heat for Protecting Brood, 107.

Aspect for Hives, 416.

ASSOCIATIONS, BEE-KEEPERS':—Berks, 103; British, 1, 21, 52, 71, 102, 111, 112, 121, 151, 172, 182, 191, 252, 283, 342, 372, 431, 441, 451, 462; Bristol and District, 133, 183; Biggar, 291, 332; Cornwall, 321; Derbyshire, 21, 373; Essex, 172, 244; Goole and District, 182; Helmsley and District, 323; Hertfordshire, 226, 282; Herefordshire, 382; Howdenshire, 56; Huntingdonshire, 182; Irish, 22, 63, 104, 162, 193, 283, 322, 443, 464, 492; Kent, 36, 43, 272; Lancashire and Cheshire, 103, 232, 275; Lanarkshire, 124, 453; Leicestershire, 113, 322, 383; Lincolnshire, 71; Middlesex, 102, 123; Midlothian, 362; Northants, 62, 322; Northumberland and Durham, 182, 486; Nottinghamshire, 95, 373; Oxfordshire, 172; Perthshire, 374; Roxburghshire, 412; Scottish, 285, 312; Shropshire, 342; Staffordshire, 312, 331; Surrey, 30, 486; Ulster, 352; Warwickshire, 143; West Dorset, 352; Windsor, 272; Wotton-under-Edge, 56, 383; Yorks (East Riding), 252, 308.

Associations and their Accounts, 58; Starting, 70, 270; Work of, 221.

Attic *v.* Cellar for Wintering Bees, 424.

Bacillus Alvei, Life history of, 83

Bad beginning with a good ending, 64

Bath and West of England Show at St. Albans, 131, 223

Batch of Queries on Bee-matters, 299

Bee Associations and their successful Management, 341

Bee Associations and County Councils, 203; for Herts, 239

Bee appliances, 55, 239

" at the Dairy Show, 380

Bee-appliance Makers, 235

Bee-Candy, 30, 59, 130, 369, 410, 430, 439, 470

Bee Census, a County, 35

Bee-escapes for Windows, 119

Bee Eyesight of the, 417

" Excursion in Ohio, 457

BEE-FOOD: Medicated, 50, 350, 390, 407; Demerara Sugar for, 110; Fermenting Syrup as, 108; Recipes for, 130, 426; Pollen as, 148; Honey as, 368; Sugars for, 369; Dark Honey for, 328; Adding Phenol to, 418

BEE FLORA: 150, 184; Eucalyptus Bloom, 41; *Erica Calluna vulgaris* (*Ling*), 361; *E. cinerea* (Bell heather), 362; *E tetralix*, 362; New Zealand Flax, 70; Varieties of Heather, 361, 362; Lime trees, 363; Californian Honey Plants, 92; Spur Valerian, 386, 394; Lucerne, 469

Bee-houses, 190, 205, 478

Bee Jottings, 87

Bee Location, Shelter for, 19

Bee Notes, 234, 316

BEE NOTES FROM SUSSEX, 7, 27, 58, 118, 166, 195, 233, 304, 493; from Central Oxon, 244; Manchester, 305; Cumberland, 466

Bee Publications, Illustrations for, 100

Bee Parasites, 189, 199, 219, 408, 419

Bee Pasture, 420

Bee Songs, 90, 128

Bee Stings, remedies for, 80, 216, 234, 245, 254, 266, 267, 285, 286, 327, 365

Bee-story, a Californian, 388, 389

Syrup-making, 320

Bee-van at Work, 203

Bee-veils, &c., 75

Bee Work not hard work, 409

Bees, 3, 109, 120; and Honey Production, 9, 18; and Brood Dying, 135, 139; and Apple-bloom, 152; and Stale Comb Foundation, 179; and Fruit Crops, 192; and Flowers, 202; and Workshops, 207; and Arsenic Fumes, 256; and Stings, 327; and Drains, 380; and Lime Trees, 363, 375; and Valerian, 386; and Sunshine, 409; and Fruit-growers, 413; and Cottagers, 436, 445, 447, 455, 466, 467, 468, 475, 477; and Wax Production, 449; and Bailiffs, 490; as Criminals, 268; at a Bazaar, 280, 320, 325; Balling Queens, 129, 184, 194, 227, 492; Birds and, 37; Black or Native, 12; Bringing Back the, 7; Buying Stocks of, 492; Buying Driven, 350; by Goods Train, Sending, 380; Cast out, Black, 279; Carniolan, 12; Caucasian, 490; Classic Colony of, 345; Cleansing Flight, 480; Compelling Removal of, 119; Confining, 39; Cyprian and Syrian, 13; Cyclopean, 482; Danger of Buying Stocks of, 428; Deserting Hives, 140, 249, 480; Deserting Swarmed Hive, 19; Driving, 8, 25, 26, 46, 234, 440; Driving Vicious, 16; Dwindling, 238; Dysentery in, 70; Dying Outside Hives, 186, 189, 276, 307; Dying in Hive; 168; Economic Value of, 480; Feeding, 130, 140; Feeders for, 479; Flight of, 99; Fowls and, 69; for the Moors, Preparing, 6, 293; for Transit, Packing, 298; from Wall of House, Moving, 39; from Combs, Shaking, 110; Gathering only Honey Dew, 287; Guide Books on, 323; How and when to Manipulate, 94; Humble, 37, 47; in California, 178, 187; in South Africa, Enemies of, 274, 376; Transit, Danger to, 305; in the Isle of Thanet, 516; Greenhouses, 317; in Nottingham, Stray, 235; in South Bucks, 215; in Northants, 206; in Spring, Loss of, 187; in Hive Roofs and Immovable Combs, 127; in a London Suburb, 130; in London Gardens, 498; in Frame Hives without Frames, 168; in Banffshire, 135; in Hampshire, 45; in Hunts, 64; in Herts, 86; in Double-Stocked Hives, Uniting, 8; in North Yorks, 392; in Co. Kilkenny, 405; in Skeps, 410; in Ireland, 88; in Essex, 446; in Durham, 446, 465; Introducing New Blood Among, 51; Keeping Out of Conservatories, 49; Located at a Distance, Managing, 130; Location for, 520; Long-tongued, 257; Lectures on, 377; Manipulating, 137, 154, 166; My First Attempt with, 287; Moving, 34, 40, 120, 279, 400, 406; Muzzling the, 81; Native and Italian, 488; No Thoroughfare for, 518; Not Working in Sections, 238, 255, 275, 293, 307; Driven Dying, 469; of Ceylon, Native, 99; Races of, 12, 229, 239; Refusing Foundation, 14, 134, 143, 155, 164, 165, 175, 184, 195, 264, 306, 427, 480; Removing, 119, 246, 489; Sparrows and, 206, 245, 267; Storing Candy, 60; Stimulating, 440; Sugar for, 340, 479; Sugar Candy for, 178; Superstitions about, 396; Tanging the, 125; Taking a Lesson from the, 45; Taking Possession, 269; Thrown Out, 40; Transferring, 20, 80, 138, 150, 246, 259, 279, 310, 320, 330; Transferring themselves to Frame Hives, 199; Transfer Eggs? Do, 264, 274; Uniting, 377, 519; Uniting Driven, 255; Water for, 325; Wild, 180; Wintering of, 424; Wintering Small Lots of Driven, 436; in "Wells" Hives, 521

BEE-KEEPERS: A Word to, 216; Serious Questions for, 14; Directory for Cumberland, 145; To Scottish, 261, 263; and the Dairy Show, 337; An Appeal to Cumberland, 204

Bee-Keeper, Ye Olden, 8, 17; Not a, 187

BEE-KEEPING and County Councils, 31; and the Daily Press, 81; and Bee-Keepers, 155; as a Pursuit for Women, 218, 409; Comedy and Tragedy in, 394; Cottagers, 144; Difficulties, 218; Experiments in, 481; Golden Profits from, 271; in Ireland, 15, 27; in School Teaching, 97; in Yorkshire, 106; in California, 178, 187; in Cumberland, 193; in Lancashire, 234; in Wotton-under-Edge, 245; in Durham, 275; in Birmingham, 326; in Hunts, 421; in Russia, 328; in

Northern Lands, 484 ; in British Columbia, 47 : in Wexford, 394
BEE-KEEPING, LECTURES ON, 30, 48, 127, 406 ; Latest Side of, 409 ; Laureate and, The, 477 ; My Three Seasons, 335 ; Near Manchester, 216 ; North Riding County Council and Technical Instruction in, 106 ; Profits of, 483 ; Statistics, 5, 16 ; Starting, 249, 320, 349, 397 ; Under Difficulties, Successful, 24
Beginners and the "Wells" Hives, 79, 126 : Double Queened Hives and, 89, 479 ; Experiences, 16, 24, 26, 445 ; Help for, 70 ; Queries, 130, 150, 209, 298, 397, 479 ; Bee Books for, 219, 360
Bird Sanctuaries in New Zealand, 37
Bird's Nest in Hive, 195
Board of Agriculture, 301, 312
,, ,, Leaflet, 32
"Boil it Down," 159
Boxes for Carrying Driven Bees, 295
Brace-Combs, 110, 164
Breeding, Old Combs or New for, 57
British Bee Industry, 61
Brood, Artificial Heat for Protecting, 107
Brood-Chambers, size of, 11
Brood, Chilled, 130, 170, 199, 255
Brood-Combs for Honey Storing, 51 ; Comb, Sending Samples of, 350 ; Killed in Transit, 286 ; in Surplus Chambers, 259 ; in Comb, Dead, 150, 259 ; Spreading, 113, 137, 145
Broodless, but not Queenless, 366, 386
,, and Queenless, 386
Bundle of "Don'ts" for the Early Season, 87
Buying Goods from Advertisers, 180

Calico Covers in Lieu of "Lifts," 184
,, ,, for Surplus Chambers, 185
Camping Out at the Moors, 465
Cane for Skep-making, 279
Cane Sugar for Bees, 20, 190, 279, 373, 484
Candy, 30, 59, 130, 369, 410, 430, 439, 470
Carbolic Cloths, 256, 518
Carbolic Acid Vapour for Quieting Bees, 479
Carniolan Queens direct from abroad, 348
Carniolan and English Queen-Breeders, 355, 356, 386
Casts Returned, 229
Cell and Comb Structure, 95
Claiming Swarms, 207
Cleaning up Wet Combs, 340, 407
Cheap Spring Feeder, 106
Cheap Rates for Honey by Rail, 371, 391, 402, 437, 457
"Chestnuts," Still more, 4
Comb-building by Nuclei, 91, 107, 125
Comb-attachments, 88
Comb-leveller for Sections, 186
Comb-honey, Swarms for, 207
,, ,, Working for, 235
Combs : Immovable, 127 ; Keeping Moths from, 330 ; of Chilled Brood, Using, 259 ; Old, 66 ; Paring Down, 48 ; Pollen Choked, 157, 184, 350, 370 ; Preservation of, 419, 428, 438 ; Renewing, 296, 298 ; Removing Pollen from, 459 ; Shaking Bees from, 110 ; Suspected, 80, 290, 360 ; Utilising Empty, 318 ; in Skep, Broken Down in Transit, 137
Combed Sections Damaged by Mice, 90
Compelling Removal of Bees by Law, 119
Compulsory Powers, 136
Composition and Shape of Honey Cells, 47
Comedy and Tragedy in Bee-keeping, 394
Conservatories, Keeping Bees out of, 49
Continuous Bee-hive, a, 295
Cone-escapes, Taylor's, 185
Contracting Hives for Winter, 407
Conversaziones, B.B.K.A., 121, 191, 441, 451, 462
Correction, A, 425, 449
Correspondents, To, 241
Cottager's Bee-keeping, 144
,, ,, Queries, 368
Cottager, a Disappointed, 436, 445
Cottagers, Bees and, 445, 447, 455, 466, 467, 468, 475
County Associations and Dealing with Foul Brood, 161
County Councils and Bee-keeping, 31, 202
County Council Delegates and B.B.K.A. Committee, 52
County Bee Census, 35
County Labels at Dairy Show, 457
County Bee Associations, 412
Creating a Honey Market, 241
Cutting a Bee-tree, 388, 399
Cutting out Queen Cells to Prevent After-swarms, 219

DAIRY SHOW : 366, 373, 381, 386, 402, 431 ; Additional Classes Fund, 134 ; Awards, 432, 449, 456, 466 ; and Intending Visitors, 366 ; Bee-keepers and the, 337 ; Exhibits at, 466, 478 ; Dark Honey Classes at, 474
Dairying and Bee-keeping in South Australia, 338
Damage to Bees in Transit, 305
Date of White Clover Yield, 208
Dark Honey, 259, 340, 355
Dark Honey for Showing, 360
Dead Drone Brood, 459
December Days, 514
Design in Honey Comb, 147
Difficulty in Obtaining the B.B. JOURNAL, 179
Dimensions of W.B.C. Hive, 107
Diseases, 383
Distance Between Hives in Confined Spaces, 469
G. M. Doolittle, Mr., his Queen-cell Protector, 370 ; Comb-building by Nuclei, 91 ; Work for Coming Season, 108 ; Age at which Queens Lay, 128 ; Balling Queens, 129 ; Pollen and Its Uses, 148, 149 ; Queens Mating, 169 ; Getting Bees into Upper Stories, 169 ; Putting on Sections, 235 ; Securing Worker-combs, 256 ; Utilising Empty Combs, 318 ; Nurse Bees, 339 ; Replacing Aged Queens, 339 ; How Swarming is Conducted, 347 ; Purity in Bees and Queens, 376 ; Uniting Bees, 377 ; Making a Solar Wax Extractor, 387 ; Superseding Queens, 519 ; Uniting Weak Colonies, 520.
Drawn-out Combs for Sections, 158
Do Droneless Hives Swarm ? 48
Do Bees Pay ? 477
Doings of the Past Month, 422, 512
Double-queen System, 454
,, ,, Hives, Working with, 487
Driving, 3, 5, 16, 25, 26, 46, 234
,, Extraordinary, 366
,, Mishaps, 367
DRIVEN BEES : Boxes for Carrying, 295 ; Utilising, 358 ; Uniting, 359
Drones, Bees Casting Out, 249, 348
Drones in February, 69
Drone-comb in Super, 180
Dysentery in Bees, 70

Echoes from the Hives, 39, 68, 79, 98, 128, 158, 198, 207, 217, 227, 236, 246, 254, 289, 297, 328, 408, 525
Editorial Discretion, Need of, 171
Editorials :—The Bee Industry, 61 ; "Muzzling the Bees," 81 ; Unprincipled Advertisers, 101 ; Australian Honey, 101, 151 ; County Associations and Foul Brood, 161 ; Editorial Discretion, 171 ; The Work of Bee Association, 221 ; Golden Profits from Bee-Keeping, 271 ; Light *v.* Dark Honey, 321 ; Management of Bee Associations, 341 ; Providing for "Shows to Come," 351 ; Sending Honey to Shows, 371 ; Cheap Carriage for Honey, 391, 402 ; English *v.* Foreign Honey, 411 ; Homes of the Honey Bee, 441, 481 ; Sparing the Editors, 471 ; "Royal" Show of 1897, 501 ; A Parting Word for 1896, 521
Eggs, Queens Duplicating in Single Cells, 208
,, Failing to Hatch, 390
Exhibitors' Difficulties, 345
Ekes, 44, 165
Entrance, What is a Large, 97
Enlarging Brood Nests, 127
Errors in Teaching, 374
Excluder, Zinc, 56, 66, 77, 140, 164
Experts and Foul Brood, 194, 326, 337, 346, 393
,, ,, Antiseptics, 369
Experts and the B.B.K.A., 470
EXPERTS' CERTIFICATES, 480 ; first class, 60 ; second class, 459 ; for South Africa, 450 ; examinations for, 490 ; and foul brood leaflet, 393
Expert Help Wanted, 279, 286, 306 ; Experiences, 46, 205
Experiments in the Use of Comb Foundation, 211
Experientia Docet, 443
Experiences of a Practical Bee-Keeper, 366
Explanation, an, 425
Extracting and Grading Honey, 286, 353, 354
Extracting from Brood Chambers, 348 ; Old Combs or New for, 35, 43, 78 ; Shallow-frames for, 20
Extracting Wax, 437
EXTRACTED HONEY, 3 ; Air Bubbles in, 398 ; New Combs for, 67 ; V Sections for Profitable Working, 108
Extractors, 75, 249, 293 ; for Loose Combs, 350 ; Diameter of Cylinder for, 296
Eucalyptus Bloom, 41
Eyesight of the Bee, 417

Fertile Worker, Suspected, 169
,, ,, in Hive, 298
Fertilising Queens by Selected Drones, 39
FEEDING BEES :—86, 130, 140 ; Open-air, 49, 292, 303 ; Spring, 113, 130 ; Under Floor-boards, 136, 146 ; with Dry Sugar, 130 ; in May, 189 ; for Winter, 389 ; Driven Bees in Autumn, 398 ; Driven Stocks, 385
Feeders for Bees, 479
Feeder, Cheap Spring, 106
Flowers and London Toilers, 235
,, of January, 36
Food Supplies, 449
Foreign Queens by Post, 470
FOUL BROOD :—Historical Retrospect, 73 ; Nature and Life History of, 83 ; Method of Treatment, 92 ; Abnormal Case of, 232 ; After Twelve Years, 309 ; and its Treatment, 31, 72, 83, 92 ; and Open-air Feeding, 292 ; a Suggestion *re*, 421 ; at Heathfield, 177 ; Bad Case of, 209 ; Bacillus, 60, 84 ; Bill for Prevention of, 201, 216 ; Cause, and Means of Propagation of, 85 ; Compulsory Powers, 136 ; Combs Infected with, 301 ; County Associations and, 161, 174 ; Curing, 177, 324 ; Dealing with, 17, 136, 316, 364, 430 ; Experts and, 194, 326, 337, 346 ; Government Returns and, 70 ; Hardship, 177, 267 ; Hilbert's Cure for, 107 ; in Skeps, 255 ; in Driven Stocks, 348 ; Leaflet, 326, 393 ; Preventives, 306 ; Queenless Colony and, 256 ; Statistics, 315, 326 ; Suspected, 180, 279, 378, 418 ; Samples, 193 ; Troubles, 268 ; Treatment of, 266, 273, 279, 420
Foul-broody Hives, Fertile Worker in, 187 ; Using Sections from, 108 ; Using Combs from, 40
Foundation, Coloured, 327 ; Bees Refusing, 14, 143, 155, 165, 175, 264, 427, 480 ; Drone-cell, 450 ; Experiments with, 211 ; Flat-bottomed, 155, 184, 195 ; for Extracting Combs, 49 ; for Swarms, Full Sheets of, 209 ; for Winter Fixing, 380 ; Super, 134 ; the "Weed," 202, 214, 225, 227 ; Cutting to Proper Size, 226 ; Use and Non-use of, 68 ; With Odd-sized Cells, 257 ; Whom to Get it From, 175
Frames, Broad-shouldered, 137 ; to Brood-nest, Adding, 130 ; Glass Covers for, 469, 472 ; in Hives, Odd-sized, 199 ; Oil-cloth Covering for, 310 ; Space Below, 209 ; Wiring, &c., 38
Frame-hives, Working Skeps Above, 157, 196 ; Without Frames, 160, 168 ; Transferring Bees to, 150, 189, 199, 279 ; Working, 199
Free Seeds of Bee Plants, 494
Fuel for Smoker, 146, 177, 234

Glazing Sections, 50, 303
Girders for Section Racks, 137
Glass Covers for Frames, 469, 472
Good and Poor Pasturage, 483
Good-bye and a Retrospect, 486
Good Honey District, 86
Grating of Nails for Hive Entrance, 20
Granulation, Preventing, 70
Granulated Honey for Exhibition, 99
Grumbles, 26
"Guide Book, 196, 302, 333, 346

SEP 1919

Handy Home Device, 184
Harvest Home, 403
Hatching Queens, Handling Combs containing, 69
Have Bees Human Sympathies, 396
Hay-chaff for Winter Packing, 469
Heating Hives with Paraffin Stove for Rapid Feeding, 479
Heather, Preparing for, 6; Moving to the, 34, 246; Harvest, 197; Season in 1896, 295; Honey Crop, 361; Honey in Sussex, 370; Honey in Surrey, 431; Honey, Colour of, 439
Hedgehog and Bee, 317
Helping the Shows, 291
Hive, Cheap A, 25; Making, 20, 408, 426; Dimensions of the W.B.C., 107, 170, 270; W.B.C., The, 497; Bird's Nest in, 195
Hives, 56, 157; Ants in, 69; Aspect for, 416; Buying Second-hand, 80; Best materials for, 494; Dealing with Neglected, 360; Double-queened, 479; Disinfecting, 186, 229; for Winter Packing, 146, 401; for the Moors, Preparation of, 197; Home-made, 140; in November, Disturbing, 458; Interior Surface of, 513; in February, Examining, 60; Large *v.* Small, 117; Labels, 249, 275; Non-swarming, 67; Numbering, 156, 457; Odd-sized Frames in, 199; Observatory, 249, 268; Parasites in, 189; Price of, 320; Quadruple, 350; Red Spiders in, 160; Temperature for Examining, 181; Uses of a Record-book for, 156; Uniting in Double-stocked, 80; Uniformity in, 276; Unworkable, 317; Ventilating, 229; "Wells," 79, 89, 90, 138, 209, 126, 237; with Outer Cases, Single-walled, 38; Yellow Deal as Material for, 488
HONEY, 33; Artificial, 450; Australian, 101, 154; and its Uses, 155; and Syrup, 488; at Half Rates, Sending, 267; at Maerdy, Adulterated, 338; as Bee-food, 368; Buying and Selling, 332; by Rail, Sending, 425; Black Specks in, 377; Bottle, Taylor's, 185; Basswood, 500; British and Foreign, 61; Chemical Properties of, 79; Cheap Rates by Rail, for, 371, 391, 437, 457; Chilian, 494; Care in Storing, 253; "Owner's Risk," Rate for, 468; Confectionery, American, 168; Date, 180; District, A Good, 86; Dealing with Broken Comb, 238; Dark, 259, 328, 340, 360; Extracting, Thick, 286; Early, 195; Extending the Use of, 142; Experiments in Heating, 42; Extracted, 3, 67, 78; English and Foreign, 402, 404, 411; Effect of Soil on Colour of, 335; Effect of Elevation on Quality of, 336; Frames of Thick, Unsealed, 500; for Exhibition, Granulated, 90; for Showing, Early, 192; from Willows, 147, 167; from one Hive, Varieties of, 397; Fermenting, 298, 440; Fair, Hereford, 382; Granulated, 3, 60, 281; Grading, 353; Heather, 181; Harvest Variation in, 418, 457; Harvesting, 279; House, Ants in, 130; Imports, 18, 63, 105, 152, 192, 232, 289, 322, 412, 472, 500; Imports for the year 1895, 34; Influence of Eucalyptus on, 41; in an Electric Light Globe, 59; Transit, Milk Churns for, 64, 77; Store Combs, 480; a House Roof, 218; Brood-nest, 410; Section-crates, Exhibiting, 430; Light *v.* Dark, 321, 331, 336, 337; Loss of, 466; Minorcan, 7; Melting Granulated, 127, 311; Market, Creating a, 241; Manufactured, 425; not Granulated, 60; of '96 for Next Year's Show, 400; Points for Judging, 1, 2, 105; Plant, New Zealand Flax as a, 70; Price of British, 491; Production, 41, 173, 290; Ripening, 310; Ripeners, 30, 219; Returns in California, 163; Removing surplus, 124, 141, 175, 296; Storing Old Combs for, 10, 51; Section, 46; Samples, 70, 320, 340, 360, 440, 480; Selling, 214, 455, 460, 477; Selling Small Lots of, 445; Sweets, Recipes for, 400; Season, 241; Straining, 296; Tall Glass Vases for, 375; to Shows, Sending, 371, 377; Trophies at the "Royal," 381; Vinegar, 101, 360; Vinegar, American Recipe for, 379; Waxed Paper for Wrapping, 479; Without Bees, 408; What is Pure, 75, 106
Homocea for Bee Stings, 80
"Homes of the Honey Bee," 441, 481, 485, 512, 522
How to Make Wax, 423
Humble-bees, 37, 47, 497
Humble Dumbledon, the, 29

Illustrations, The Value of, 323, 346
Immediate Replies, Fees for, 439
Imported Foreign Queens, 477
Insects that bring luck, 319
Increase, Natural and Artificial, 132
In Clover, 349
Isle of Man as a Bee Country, 393

Jottings, Bee, 87
John Huckle Memorial Fund, 261, 275, 303, 433
Judging Honey, Points for, 1, 2, 105

Keeping up Prices, 455

Lace Paper for Sections, 470
Lamentations of a Cornish Mother Bee, 90
Laureate and Bee Keeping, The, 477
Late Fertilisation, 376
Laying Workers, 33
Lectures on Bee-keeping, 30, 48, 127, 377, 406
Leaflet, Foul-brood, 326
Length of the Bee's Tongue, 459
Ligurian Bees, 12
,, Queen cast out, 338
,, Queens, Buying, 310
Lifts, Calico Covers in lieu of, 184
Little People, The, 49
"LOKDSWOOD":—The Humble Dumbledore, 29; Flowers of January, 36; some July days, 294; Harvest Home, 404; Aspect for Hives, 416; Wax, 423; Spare the Editors, 424; an Explanation, 425; Wax Extracting, 437; More July days, 456; Recollections of the Past, 447; Bees and Cottagers, 475; A May Morning, 495; December Days and the Bees, 514.
Ludlow Chrysanthemum and Fruit Society, 464

Manipulating Bees, 146, 154, 166, 177
Manipulate Bees, How and when to, 94, 137
Making dark Honey light, 470
May Morning, A, 495
Mead, 360
Measuring "Spoonsfuls," 496
Metal Ends, The W. B. C., 226, 231, 517
Moving Bees, 400
,, from roof, 406
,, Skeps 300 yards, 410
Medicated Bee-food, 50, 350, 390, 407
"Memories," 516
Meteorological Summary, 80, 126
Milk-churns for Honey in Transit, 64, 77
Misquotation as to Standard-size Hive, 57
More July Days, 456
Mouldy Store-combs, 110

Nadirs and Ekes, Use of, 44, 66
Naphthaline, 289; Overdosing with, 219; Using improper, 276
Naphthol Beta Solution, 317, 517; Measuring, 348; Temperature at which it Volatilises, 388
Native Bees of Ceylon, 99
Natural and Artificial increase, 132
Non-sectional Super, What is a, 345, 370
"Notes by the Way," 1, 23, 43, 63, 86, 116, 143, 163, 183, 225, 253, 284, 303
Notes and Queries, 204
Notes from Central Oxon, 244; from Manchester, 305, 358; from Devon, 365; from the West, 436, 477; from Cumberland, 465
Notes, Northern, 76
,, Some general, 316
"Notanda et Inquirenda," 3, 25, 56, 65, 118, 164
Not a Bee-keeper, 187
Novelties for 1896, 167, 185
Novel Bee-smoker, 115, 189
Novices Queries, a, 289
Nuclei, 91, 107, 125, 137, 152, 160, 207, 286, 309
Nucleus Hives, the best size for, 525
Numbering Hives, 156, 457
Nurse-bees, 339
Number of Frames for Brood-chamber, 138

OBITUARY:—Mr. F. Meggy, 32; a Veteran Bee-keeper, 63; Mr. Baldensperger, 78; Mr. Walter Martin, 352; Mr. Allen Pringle, 355; Rev. Robert Sanders, 402; a Cumberland Naturalist, 497
Observatory Hives, 254
,, ,, arranging, 268
,, Wintering Bees in, 408
Oddments, 345
Oilcloth Covering for Frames, 310
Old Combs for Honey Storing, 10, 51, 75
Old Combs or New for Extracting, 35, 78
Old Combs or New for Breeding, 57
Open-air Demonstration, 216
,, feeding, 303
Our Library Table, 254
Over-crowding, 314

Parasites on Bees, 199, 408
,, in Hives, 189
Pasturage, Good and Poor, 483
Patent Split Sections, 480
Pettegrew, the late A., 517
Perforated Zinc for Section-dividers, 140
Points for Judging Honey, 1, 2, 105
Please Tell me Why, 265
Pollen, 55; and its Uses, 148, 149; Why Bees Store, 148; in Sections, 148; a Bee Food, 149; Early, 47; and Propolis not the Same, 149; Combs, 370
Porches, the Utility of, 525
Porter Spring Escape, The, 104, 119
Postage of Correspondence, 11
Presentation to Captain Campbell, 79
Prices of Sugar, 492
Propolis, 55
Providing for "Shows to Come," 351
Proposed Joint Association for Kent and Surrey, 412, 421, 433
Puzzling, Difficulty, a, 135

QUEENS, Balling, 129, 184, 194, 227; Breeding Late in Autumn, 310; Begin to Lay, Age at which, 128, 206; Buying Ligurian, 370; By Post, Foreign, 470; Deposing Good, 307; Deposing Unsatisfactory, 218; Direct from Abroad, Carniolans, 348; Duplicating Eggs in Single Cells, 298; Early and Late Reared, 379, 385; Exchanging Virgin, 51; From Italy, Italian, 447; Fertilising, 39, Handling Combs Containing Hatching, 69; Introducing, 246, 310, 346; Is the Removal of Ekes in Spring Dangerous to, 165; Mating, 169; Novices and Renewing, 218; Rearing, 146; Replacing Aged, 339; Superseding, 519; Securing Young, 219; Taken to South Africa, 416; Age of, 190, 268, 359, Damaged or Worn-out, 186
Queen-Bee, The, 174
Queen, Cast Out, 10, 269; Cells Sealed in March, 120; Cutting Out, 219, 239; Swarms building, 276; Destruction of, 393, 405; Cell, Worker Bee in Sealed, 237, Protector, 370; Excluders, 66, 77, 130, 164, 307; From her Escort, Removing, 497; Suspected Loss of, 295, 380; Turned out, 200, 229, 320; Introduction into Skeps, 368, 369; Late Fertilisation of, 376; Number of Eggs Laid by a, 519
Queen-Raising by Artificial Incubation, 364; Rearing, 137, 199, 146, 249, 291, 315, 316, 327, 345, 517
Queen-wasps and Bee-stings, 15
Queenless Colony and Foul Brood, 256
,, Broodless but not, 366, 386
,, Broodless and, 386
,, Stocks, Dealing with, 426

Queenlessness, Suspected, 148, 305, 398, 407
Queries, A Novice's, 289
,, A Cottager's, 368
,, to Bee-appliance Makers, 235
,, A Large Order in, 490
,, A Beginner's, 130, 397, 479
Question for Our Readers, A, 266
Quietness in Manipulating, 177
Quilts, 74

Races of Bees, 12
Raw Sugar for Bee-syrup, 147
Recall of the Exile, 7
Record Honey-gathering, A, 378
Recollections of the Past, 447
Red Spiders in Hives, 160
Renewing Queens, Novices and, 218
Report, A Lady Bee-keeper's, 136
Re-queening Stocks, 160, 180, 187, 247, 350
"Robbing," 48
Royal Agricultural Society, 261
,, Counties Society, 243
"Royal" Show, At the, 267
,, Show of 1897, 461
,, ,, ,, Honey Trophies at, 381
,, ,, ,, A suggestion for, 435, 444
,, Bee-Keepers' Society (a suggestion), 483
Russian Apiculture, 464

Sad end of a Bee-keeper in Rhodesia, 268
Saving Honey of '96 for next Year's Show, 400
Salicylic Acid Solution, 410
Saying Good-bye, 478
Scottish Bee-keepers' Association, Reviving the, 204
Scottish Bee-keepers' Association, Meeting in Glasgow, 261, 285
Scottish Bee-keepers' Association, an Apology and an Appeal, 176
Scottish County Councils and Technical Instruction in Bee-keeping, 202
Scotchman's Appeal to Bee-keepers of Scotland, 263
Season in Switzerland, 294
,, Ireland 337
,, Argyleshire, 326
,, Kelso, N.B., 406
,, the, 182
Seasonable Questions, 128, 148, 169, 256, 376
,, Hint, a, 253
SECTIONS:—Bees not Working in, 238, 275, 293; Comb-leveller for, 186; Damaged by Mice, 90; Drawn-out Combs for, 158; from Foul Broody Hives, 108; for Showing, 306; Glazing, 50, 303; Getting Bees to Clear, 397; How to Utilise Unfinished, 158; Lace Paper for, 470; Putting on, 235; Pollen in, 148; Packing, 253; Patent Split, 480; Racks, Girders for, 137; Refusing to Enter, 255, 305, 307; Use and Non-use of Foundation in, 68; V. Extracted Honey for Profitable Working, 108; Working, 268
Sending Honey to Shows, 371, 377
,, Bees by Goods Train, 380
Self-hivers, 75, 88
Shelter for Bee Location, 19
Shallow-frames for Extracting, 20
Shallow-frame Supers:—Cleaning, 118; Removing, 124; Difficulty with, 124; Clearing, 164
Showing? Should Tall Glasses be allowed in, 375
Simmins, Mr. S.:—on Wind and Weather as affecting Bees and Honey Production, 9, 18; on Old Combs or New for Extracting, 25, 57, 78; on Prevention of Swarming, 27; on Queen Excluders, 66; Comb-attachments, 88; Honey from Willows, 147; Foul Brood at Heathfield, 177
Shows, The "Royal" at Leicester, 31, 100, 151, 242, 251, 261, 267; the "Royal" Counties at Eastbourne, 151, 195, 243, 254; St. Albans, 126, 223; York, 232; St. Ives, Cornwall, 243; Brentwood, 244, Ramsgate, 272; Windsor, 272; Blankney, 313; Helsby, 313; Henbury, 313; Chester, 323, 334; St. Ives, Hunts, 333; Kingsbridge, Devon, 333; Neston, Wilts, 333; Leicester, 322; Delapre Park, Northants, 322; Duncombe Park, Yorks, 323; Shrewsbury, 342; Strathpeffer, 344; Perth, 374; Marlow, 344; Loughboro', 883; Lytham, Lancs, 344; Wotton-under-Edge, 383; Biggar, 352; Gosport, Cumberland, 383; Sunderland, 353; Birkenhead, 403; Penicuik, 362; Jedburgh, 412; Dunfermline, 363; Rutherglen, 453; Castle Douglas, 363; Derby, 373; Moorgreen, 373; Wellingborough, 472.
Shows, Helping, the, 291
,, the Comng, 131, 151
,, Schedules, 247
Skeppists and Frame Hives, 356
Skeps in Autumn, Dealing with, 358
Skeps: Moving, 410; Uniting in, 358; Queen introduction with, 368; Price of Stocked, 492; Above Frame Hives, Working, 196
Skep, making Cane for, 279
,, "Soliloquium Pueri," 519
Smokers, 74
,, Novel, 115, 189, 283
,, Fuel for, 146, 179, 234
,, Alight, Keeping, 196
Solar Wax Extractor—How to Make it, 387
Song of the Bee, 128
Something Like a Yield per Hive, 163
Some Items of my Inquiring Experience, 404
Some July Days, 294
SOUTH AFRICA: A Line from, 7
,, ,, Enemies of bees in, 274, 376
,, ,, Taking Queens to, 416
,, ,, Experts' Certificates for Bee-Keepers in, 450
,, ,, Stray Swarms in, 444
Sparing the Editors, 424, 435, 446, 461, 471, 475
Specific Gravity, 70
Spreading Brood, 113, 137, 145
Spring Syrup, 140
,, Cleansing Flight, 459
Stray Bees at Nottingham, 235
Supers Left on for Winter, 458
STOCKS: Increasing, 120, 189, 255, 278, 311; Short of Food, Giving Sections to, 108; Helping Weak, 199; Doubling, 248; Dealing with Diseased, 368, 428, 475; Selling Diseased, 457
Stock Hive, Space Below Frames in, 209
Super Clearers, 75, 200
,, ,, Easily Made, 433
Supering, 213
Supers, Bees Refusing to Work in, 339
Successful Start, A, 335
,, Bee-Keeping under Difficulties, 24
Superstition about Bees, 396
Surplus Chambers, 100
,, Space below Frames in, 49, 130
Surplus Chambers, Brood in, 259
Surplus Honey, Removing, 124, 141, 175, 296
Surplus, Old *versus* New Combs for Storing, 75, 87
Swarm-catchers, 247; Hole's, 65, 90; Taylor's, 140, 185; Meadows', 167
SWARMS: Artificial, 20, 127, 196, 277, 296; at the Heather, 279; building Queen-cells, 276; Claiming, 207; Smothered in Transit, 259; dealing with Vagrant, 304; Early, 10, 168, 192, 195, 208; for Comb-honey, 207; Full Sheets of Foundation for, 209; Hiving, 38, 317; in Nottingham Park, 195; in Derbyshire and Cumberland, 196; Nucleus, 268; Natural *v.* Artificial, 356; or Casts Returning, 229; Returning, 170, 249; Runaway, 209; Securing and Managing, 488, 499
SWARMING: Prevention of, 4, 5, 6, 10, 23, 27, 36, 43, 44, 45, 47, 56, 58, 66, 67, 87, 97, 105, 132, 209, 219, 479, 518; its Cause and Prevention, 394, 524; the Incipient Stages of, 167; from Skeps, Artificial, 180; in Scotland, Early, 196, 216; Year's, A, 205; Vagaries, 206, 237, 266; Uniting Nucleus Colonies and, 207; from "Wells" Hives, 254; and Young Queens, 298; Artificial, 20, 127, 133, 196, 277, 296, 330, 356, 507; is Conducted, How, 347; Early, 14, 168, 169, 192, 195, 208
Syrup Making, 320
,, "Cosy," 366

Taking Wasps' Nest for Exhibition, 279, 398, 482
Teaching Bee-keeping in Schools, 97
Technical Instruction in Bee-keeping, 106, 202; in Yorkshire, 325; under County Council Auspices, 275; in Cornwall, 481
Temperature for Examining Hives, 181
Testimonial to Mr. J. Martin, 477
Time Occupied in Developing a Worker, 77
Tithymale, 23
Trade Catalogues Received, 149, 179, 189, 208, 228
Transparent Window Bills, 306
Transferring Bees, 20, 130, 246, 259; a Lady's Experience of, 438; to Frame Hives, 80; from Lard Bucket, 138; Combs from Large Frames to Standards, 80; Combs in March, 89; from Skeps, 276, 279, 310; in Autumn, 368; Stocks to New Hives, 100, 320; Themselves to Frame Hives, Bees, 199
Trigona Carbonaria, 13

Unequal Seasons, 311
Unfinished Sections, How to Utilise, 158
Uniting, 377, 519; Queenless Bees, 488; Nucleus Colonies after Swarming, 207; in Double-stocked Hives, 80; Driven Bees, 255, 358, 359; in Skeps, 358
Uniformity in Hives, 276
Unprincipled Advertisers, 101
Useful Hints: Size of Brood-chambers, 11; Introducing New Blood, 51; Old Brood-combs for Honey-storing, 51; Comb-building by Nuclei, 91; Californian Honey Plants, 92; Removing Surplus, 141; Extending the Use of Honey, 142; Bees Refusing Foundation, 143; Temperature for Examining Hives, 181; Early Swarms, 192; Bees and Fruit-crops, 192; Foul Brood Samples, 193; the "W.B.C." Metal-end, 231; Creating a Honey Market, 241; "To Correspondents," 241; Granulation of Honey, 281; Temperature for Keeping Honey Liquid, 282; Dividing Stocks for Increase, 311; Melting Granulated Honey, 311; Light and Dark Honey, 331; Varieties of Heather, 361; Wax Extracting, 381; Packing Hives for Winter, 401; Spare the Editors, 461; Prices of British Honey, 491; Buying Stocks of Bees, 492; Untimely Bee-manipulations, 511
Utilising Empty Combs, 318

Vagaries of Unruly Swarms, 265
Vagrant Swarms, Dealing with, 304
Variation of Honey Harvest, 437
Ventilation in Winter, Free, 415
Ventilating Hives, 229
Verify your Quotations, 16
Varieties of Heather for Honey-Producing, 290
Varieties of Honey from One Hive, 307
Vinegar, 101, 360, 379
Virgin Queens, Exchanging, 51
Visitors to Dairy Show, 366, 386

Wanted, 200 Shillings, 202
Warning, A, 324
Wasps, Queen, 15
,, Nests, Destroying, 270
,, ,, for Exhibition, 279, 398, 482
Wax, 3, 33, 355, 370, 423, 449, 470; Imports, 20; Selling Adulterated, 99; in Comb Foundation, Purity of, 199; Moth, 219, 397
Wax Exractors and Carbolic Cloth, 256
Wax Extractors, Meadows' New, 167
Wax Extractors, The Solar, 387
,, Extracting, 381, 437, 515
,, Rendering, 419, 428
,, at the Dairy Show, 468
Waxed Paper for Wrapping Honey, 479
Weight of Honey Gathered Daily by a Colony of Bees, 378
Weather, 11, 51, 141, 181, 231, 281, 311, 331, 361, 381, 401

Weather, in North Wales, 40
,, in Yorkshire, 89
,, Reports, 30, 59, 99, 147, 187, 228, 278, 367, 407, 496
Weather Reports for 1895, 30
Weak Stocks, Adding Swarms to, 30
"Weed" Foundation, The, 202, 225, 227
Wells, Mr., His Report for 1895, 6; for 1896, 454; His Wax Cake, 36
The "Wells" System, 76, 79, 90, 217, 380
"Wells" Hives, 90, 209, 237; Beginners and, 79, 326; Stocking, 255; Queen cast out of, 269; Working, 138; and Their Management, 277; Swarming from, 254; Loss of Queens in, 427; and Methods, 458; Populating Advantageously, 488; Dummy, Size of Holes in, 209; Bees in, 521
Wind and Weather and Honey Production, 9, 18
Winter, Amount of Food for, 388, 390, 440; After the, 91; Caring for Bees in, 417; Contracting for, 407; Free Ventilation in, 415; Fixing Frames for, 380; Feeding Bees up for, 380; Necessities, 334; Packing Hives for, 146, 401; Packing, Hay Chaff for, 469; Protecting Skeps in, 439
WINTERING BEES in Observatory Hives, 408; in Attic *v.* Cellar, 424; Small Lots of Driven, 436; in "W.B.C." Hives, 479; in Skeps, 469
Wiring Frames, 38
Willow Honey, 167
Wm. Woodley, Mr.:—On Judging Honey, 1; Preventing Swarming, 23, 43; Old Brood-Combs for Storing Honey, 43, 64, 86; on Bees Refusing Foundation, 44; Winter Packing, 64; Feeding, 86; Wind-Breaks, 86; on Foul Brood, 116; on House Apiaries, 144; Carbolised Cloths, 144; Early Swarms, 183; Swarm-Catchers, 183; Super Clearers and Storing Honey, 253; Selling Honey, 284; Glazing Sections, 284, 303; Suggestions for the "Royal" of '97, 435, 444; the Dairy Show, 474
Work for the Coming Season, 108
,, of Bee Associations from County Council's Point of View, 221
Worker Bee in Sealed Queen Cell, 237
,, Combs, Securing the Building of, 256
Word to Bee-keepers, A, 216
Working Two Stocks in One Super, 148

"Ye Olden Bee-keeper," 8, 17
Yellow Deal for Hive Making, 488

Zinc Covering for Hive Roofs, 480

ILLUSTRATIONS.

A Cheap Hive, 25
Wiring Frames, 39
Bombus Terrestris, 48
H. W. Brice's Wax-tester, 55
Foul Brood Comb, 84, 301
Disease Germs, 85
Queen Drone and Worker Bees, 97
Porter's Spring Escape for Windows, 104
A Novel Bee Smoker, 115
Design in Honey Comb, 147
Meadows' Swarm-Catchers, 167, 185
,, Wax-Extractor, 167, 168
Taylor's Swarm-Catches, 185
,, Cone-Escape, 185
New Honey Bottle, 185
Diagrams of Comb Foundation, 212
"W. B. C." Metal End, 231
Honey Extractor, 287
Foul Brood Comb, 84, 301
Uncapping Combs, 354
Heathers (Erica), 361, 362
Bee-Parasite (Braula Coeca), 408
Home-made Super-Clearer, 434
Mr. W. Broughton Carr's Apiary in Kent, 485
Mr. John Walton's Apiary, Weston, 505
Dr. Percy Sharp's Apiary, Brant Broughton, 523

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Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION.

ELECTION OF COUNCIL FOR 1896.

Attention is invited to the fact that the election of fifteen members, to serve upon the Council for 1896, will take place early in the year. Candidates for election on the Council must be nominated by two members, upon a printed nomination paper, which will be supplied, along with full particulars, on addressing "The Chairman B.B.K.A., 17, King William-street, Strand, W.C."

[A correspondent—who is indefatigable in his efforts to promote the good of County Bee-Associations—writes us suggesting the advisability of having all "annual statements of account" framed on one uniform principle. But, while there is much force in the idea, we need do no more here than ask for its consideration by those most concerned, and await their views.—EDS.]

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

NOTES BY THE WAY.

[2353.] Once again we hail the New Year and a new volume of our JOURNAL. How short a time it seems since the first number of Vol. XXIII. came out! And yet since then some of our leaders have fallen in the fight. Some who were then beloved and revered as living workers in the craft have now passed to "that bourne from whence no traveller returns." Langstroth, De Planta, Bastian, amongst those at a distance; and John Huckle, of the Parent Bee-keepers' Association, with others of less note and prominence here at home have gone from among us. Yet, notwithstanding the thinning of our ranks by death and by the falling away for various reasons, it is gratifying to know that the circulation of our JOURNAL is steadily increasing. I think the impartial critic, when he reviews the B.J. for 1895 in comparison with preceding volumes, will admit that the interest of the pursuit has not been allowed to flag; that the multitudinous mass of items connected with bee-keeping enclosed between its covers contains many things helpful to the master in the craft as well as the 'prentice hand who has just joined the ranks.

Its pages are ever open to the discussion of topics pertaining to bees and bee-culture, and all questions tending to the furtherance of the craft and its successful adoption as a hobby or as a means of adding to one's income, has received every consideration and help at the hands of our Editors. The busy little insect which it is our privilege to cultivate holds a unique position in the economy of nature as a producer of one of the greatest delicacies that has graced the table of mankind since the creation. Then, as the only producer of wax, until quite recent years, the bee gave to man the chief means of artificial light in wax for candles. Later investigations, too, have proved its value as a fertilising agent in the production of seed for the perpetuation of the life of the tree or plant. The dissemination of this knowledge will tend to raise our pursuit into a more prominent position of usefulness, not only for the health-giving labour or profit in attending to the work of the apiary, but as a general benefit to the whole community; and we shall hear very little of the farmer who thought that, by cutting his clover before it came into bloom, he should thereby prevent the bees stealing the sweetness from his hay.

Points for Judging Honey.—I am glad this subject has cropped up again. It tends to educate not only new exhibitors but also new judges. In 2350 (p. 523) I notice Mr. C. N. White speaks of competitors starting fair by exhibiting in bottles of same style and shape, and sections in cases of similar pattern. This I think should only apply in any special class, and it should be made as plain to the exhibitors in schedule as "plain English" can make it. In my wide experience as a "showman" during the past fifteen years, I could give

many seeming glaring inconsistencies in judging honey, but I never protest unless present to weigh the points personally, as an absentee exhibitor cannot, from any written description of the exhibits by friends who may attend, determine for himself if he considers his exhibits have received merited award. The "get up" of an exhibit ought certainly to count. I think it has at two recent dairy shows. At one, the bottles containing the prize honey cost (I was told) 9d. each! Beautiful specimens of the glass-blowers' art they were, and at the last show the prize honey was put up in a dozen glass vases and tied with the "blue ribbon" even before the red card was added to complete the tri-colour, red, white, and blue. If we restrict exhibitors to one particular shaped vessel in which to stage their honey, we shall prevent, instead of encourage, progress. What Mr. White says of ripe honey being of different density is, I believe, perfectly true (owing to the source from which the bee gathers it), but for the exhibitors' ingenuity to produce that density—if density is imparted to honey artificially—I question the probability of that honey receiving any award. Heating to a sufficient temperature to clarify and thicken honey, however carefully done, will invariably impart a "cooked" flavour, perceptible to any judge with only a moderately acute sense of taste, and denude the sample of one of its finest properties, *i.e.*, its aroma. With sections—or, indeed, comb-honey in any form—artificial improvement cannot strive for the mastery; then it is left to the busy bee and her human guide, if I may be allowed to introduce the genus homo as of any assistance in the production of the best comb honey. I may mention here that my exhibits of comb honey awarded V.H.C. in the open class at St. Ives, curiously enough took first at the Dairy Show. I had one crate only of that honey all through the season.

I endorse what Mr. White says as to thick cappings; I have proved that fairly thickly-capped honey keeps best *longest*. With a thin capping honey soon deteriorates, and soon the face of the comb is as an April day, decked with dewdrops, or with "Tears, idle tears," which spoil the appearance, imparts a smoky flavour, and makes the article unsaleable. Mr. White's idea of making imperative the sending of exhibits in a certain style—travelling crates—would minimise the work of repacking, and the only objection I can see to its adoption is the cost. Supposing an exhibit is sold at the show (no unusual occurrence), the crate would possibly be lost to the owner if the purchaser required the honey sent on at the close of the show, seeing that the "empty" would probably be lost sight of. This might lead to a lot of correspondence, and some ill-will arise over the lost travelling-crate. I myself—though objecting to any enforcement of style—would favour any endeavour to the imperative adoption of using a suitable packing-case for *each exhibit*. Grocers' boxes of many sizes and shapes are now so cheap, that no excuse can lie on that head, and a 3d. roll of oak paper, or even mahogany pattern if preferred, will, with a pot of paste, cover up the flaming advertising announcement on the outsides of these boxes. This would be a great help for those who have to see to the re-packing. Then certain members of the committee ought to lend a helping hand in the "packing-up" after the show is over. With a guiding hand at the close, it is marvellous how quickly the tables may be cleared. — W. Woodley, *Beedon, Newbury.*

POINTS FOR JUDGING HONEY.

[2354.] That some uniformity in the matter of judging honey, &c., is necessary few exhibitors will deny. At the great shows the judging is, no doubt, good; but at how many of the smaller shows, where the duties are necessarily undertaken by persons who have little knowledge of bees, are the awards satisfactory?

As an exhibitor of many years' standing, and one who has been called upon to judge at county and smaller shows, I beg to add my quota to the discussion, and to submit the "tables," with scales of points, which I adopt in judging. The first time that I was asked to judge was at one of our best county shows, and my anxiety, and the fear that I might not be able to arrive at a correct judgment, led me to read all I could find bearing upon the matter. I referred to several volumes of the B.B J. and *Record*, to "Cheshire," and finally I studied that excellent little pamphlet, "Honey Judging," by the Rev. J. Lingen Seager, M.A., and which is published by the B.B.K.A. This pamphlet should be in the hands of every judge and exhibitor; and, although the writer failed in getting the B.B.K.A. to publish a code for the guidance of judges, I trust this discussion will be of benefit to exhibitors and judges, and I hope that a few of the latter will follow Mr. White's example, and give the readers of the B.B.J. the benefit of their experience.

In judging honey in the comb, I adopt the following table: Allowing ten points for each as enumerated:—1. Colour of honey. 2. Colour of cappings. 3. Sealing, evenness and uniformity. 4. Weight and finish. 5. Flavour (if found necessary). Deduct for pop-holes &c. In colour, most of the exhibits in any one show (excepting the open class perhaps) will be found pretty nearly alike. Some will lose points owing to a lack of uniformity, either in the same or in different sections or frames. In the colour of the comb and the cappings, slight differences will be seen, causing some among the best to lose $\frac{1}{2}$ or $\frac{1}{4}$ point. Sealing, and evenness of the same, will cause another variation in points, whilst in weight and

general finish, the best will only obtain full marks, and they will have few, if any, deducted for pop-holes. Flavour is left till the last, and will not be resorted to, unless absolutely necessary. All honey should be protected so that whilst its good points may be seen, it will be impossible for robber-bees to get at. Sections should be made as presentable as possible, and nothing looks nicer than a narrow lace edging, but as the work of the bees only is judged. I give no points for decoration.

Extracted Honey.—1. Colour. 2. Consistency (ripeness). 3. Aroma. 4. Flavour. Ten points for each. Deduct for pollen, wax, &c.

Run honey varies very much in colour, so much, in fact, that some schedules have separate classes for light and dark. Where there is only one class, the colour will, no doubt, be judged relatively, that coming nearest to the judge's ideal receiving most marks. In awarding marks for consistency, care will have to be exercised in seeing that the temperature of the air within the tent affects all the exhibits alike. Some of the bottles will be found fuller than others, and if the consistency be judged by the objectionable practice of turning the bottles upside down, a very erroneous conclusion will be arrived at. In deciding upon the aroma, I always open different bottles to those which are tested for consistency, as many of the delicate aromas are lost when the honey is exposed to the air. The sense of taste will be exercised to the full in judging a numerous entry of run honey. The presence of pollen grains, bits of wax, &c., will lead to a loss of marks.

In a local or county competition, the county label might with advantage be used on both sections and bottles, but in the open classes I am strongly of opinion that no label of any kind should be allowed, a small ticket inscribed with the number only being firmly fixed on every exhibit.

Granulated Honey.—1. Colour and granulation; 2. Aroma; 3. Flavour—Ten points each. Deductions—As before.

The best run honey will form the best granulated, and it should be allowed to granulate in the bottles. Clover honey forms small granules, and produces fine samples for exhibition. Spring honey does not set well, the grains are large, and the samples are overcharged with moisture. Unripe honey will not make good granulated honey.

Bees.—1. Queen, 10 points; 2. Workers, 10 points; 3. Drones (if in season), 10 points. Frames of comb—(*a*) Brood, 4 points; (*b*) Food, 3 points; (*c*) Condition, 3 points. Deductions. "For the best stock of bees to be exhibited with their queen," &c. Such is generally the wording of the schedule, and as most of the shows are held when drones are in season, a few should always be in the observatory hive; a stock of bees at such season being, of course, incomplete without drones. Some associations give separate prizes for English and for foreign bees, and when this is the case the work of the judge is simplified, but where the wording of the schedule is indefinite, the judge will no doubt award most points to those bees which approach nearest to a pure race. The frame or frames should contain food and brood, sealed and unsealed, and the comb should not be black with age. The presence of crushed bees, want of space for the bees to move freely on the face of the comb, &c., will lead to loss of marks, whilst the slightest indication of foul brood will disqualify.

Wax—1. Colour; 2. Aroma, 10 points each. Deductions as before.

This is not an easy class to judge. Wax varies as much in colour as honey does, and the lightest in colour is not always the purest or the best. Wax should be exhibited in one cake, as many small pieces are invariably missing at the close of the show. The presence of debris, scraping of the cake, and extreme brittleness will lead to deductions.—GWENYN, *Derby, December* 28.

NOTANDA ET INQUIRENDA.

[2355.] The many calls made upon my time by the present season—pleasant in every respect except the weather—prevent me from doing more just now than send the following acknowledgments of answers to my "Notes and Queries" kindly furnished by other correspondents.

Stings.—Mr. W. T. Reid (2314, p. 485) mentions a remedy of which I have heard before. I have never tried it, as I find my own *nostrum* effectual after considerable experience, and I don't care to risk the three days' inconvenience if the application of the cold key *should* fail. But the first time I am stung on the face or some other inaccessible part, I will try the remedy kindly mentioned. It evidently acts in the same way as "cupping." I have lately read somewhere of a man who, when bitten in the finger by a deadly snake, saved his life by having the presence of mind and courage to instantly chop off the finger, before the fatal venom had had time to spread through the circulation. Rather an extreme preventive, but, if there is any truth in the story, preferable to losing one's life!

Drivings.—I am much obliged to Mr. Simmins (2343, p. 518), and also to "A Worker" (2347, p. 522), for so kindly taking up my inquiries and replying to them in their several ways.

If we could all be experts of the standing of Mr. S., doubtless "driving" would be the child's play he and others make of it. But I wrote expressly bearing in view two circumstances, viz., 1. That there must be many who have to stock their hives to start with by help of driven bees, who have to tackle "driving" upon book knowledge only, and who may find the singular and unpleasant variation in the behaviour of bees which is my constant expe-

rience, not only in "driving" merely, but in all handling. Some hybrids I have are as quiet and harmless as can well be, compared with my black stocks. I still cannot help thinking that for some reason these latter, or some of them, are "Tartars." At any rate, I am relieved to find I do not stand quite alone in my experience; and I hope others still may be encouraged to relate their real experiences. 2. That even supposing the trouble is entirely due to our own clumsiness, it would be better to insert in the books a warning to the tyro as to *possible* disastrous consequences, so as to put him a little on his guard. Of course, it is better to see "driving" properly done; but supposing you cannot?

Swarm Prevention. — I am also much indebted to Mr. S., for taking so much trouble to resolve my difficulties. I have carefully and gratefully noted his hints. I quite understand the principle and bearing of his suggestions for swarm preventing, and will keep them carefully in mind.

I must note the exact time of trouble with wasps in this neighbourhood. I believe it is earlier than he supposes. But I will make sure about this next year.

I am relieved to find mice are only dangerous in the autumn. Just now we are trapping them in my garden at the rate of several a day.

With regard to a large entrance causing trouble in handling, have the bees referred to on page 519 a way of pouring out of the front entrance and "coming for you" when you touch the hive from the rear? Because this is a playful habit mine have, when they possess any stores to protect. It very much resembles their liveliness when "driven." It will be said, perhaps, "why not re-queen them and get a milder strain?" Well! They are such splendid honey gatherers and section cappers, that I hesitate to do so. But they really are sometimes "a caution."

The great objection that remains—in my case—to the *nadir* plan is the expense. In hives of the pattern I have it means a double set of brood-chambers, with porches, &c.; it means twice as many brood-frames; it means great labour, and disturbance of the bees for the indispensable occasional examination of the under-chambers. Last year I gave it a thoroughly fair trial. It did not prevent swarming, it gave me drone comb, it gave me a heap of trouble. This year I wish, in preference, to try some simple plan of giving shade to each separate hive, as needed, during the heat of the day. Possibly I may be enabled to adopt some combination of both expedients. In any case, I am really very thankful for any kind hints in assistance, and especially to the Editors of the B.B.J. for allowing me to air my apicultural grievances in their columns. To them, and to my brethren of the craft, readers, as all such ought to be, of the B.B.J., if not also of the *Record* (as I am), I offer my heartiest good wishes, both for the passing Season and the coming year, in which may we all prosper to our very hearts' content. —SELF TAUGHT, *December* 28, 1895.

STILL MORE CHESTNUTS.

[2356.] *Effects of Stings.*—I wish some of our medical bee-keeping friends would explain to us the causes of the different effects produced by these disagreeable, but all the same useful and necessary, corollaries of the pursuit of our craft. With me a sting—anywhere but on the soft parts near the eyes—has absolutely no effect beyond the first warm prick—something, I should imagine, like an injection of concentrated fuel from the infernal regions! This lasts—the sting, of course, being promptly extracted—about half a minute, after which I am perfectly insensible that I have been the object of such *warm attachment*. Should I be stung on the more vulnerable part before mentioned, the pain continues for half-an-hour, hot scalding tears running down the face, and excruciating pain which puts me *hors de combat* for the while; but at the expiration of the aforesaid half-hour "Richard is himself again," and no more afraid of the bees and their stings than of flies. I remember, however, in my novitiate days a stinging of a more formidable nature. I had then an out-apiary in Cheshire and would sometimes take a holiday and spend it with my pets. Among the hives was a swarm which had been put on foundation a few days before removal. About a fortnight later, enjoying a pleasant morning with my bees in the country, I was examining this hive, when on removing the first frame I dragged two or three others along with it. The foundation had only been drawn out at the tops, while underneath it was all fastened together, and "slants," "brace-combs," and all manner of devices in wax had been constructed by the bees. Oh! I *did* have a lively time I assure you, and as I always manipulate with shirt sleeves rolled up, my arms received a fair share of attention; but my face—well, I met several of my friends when I was nearing home that morning and they actually didn't know me until I addressed them, and then their natural inquiry was if I had "turned prize-fighter." And well they might. I must have had over 100 stings. One eye had quite "shut up," and with the other I could just see through an opening of about one-eighth of an inch; a nose equal in size to the normal breadth of the face, and a face that felt as though it reached out into infinite space; while ears, neck, and back of the head were all aches and tingles. The tortures inflicted by Prospero on Caliban could not have equalled mine. One poetaster of my acquaintance dashed off the following impromptu:—

"There was a young man of Birch Fold,
With his bees he was rather too bold;
But (his bee-veil all scorning) they gave him
'a warming;'
And now—there's some hives to be sold."

But the hives were not sold, and in thirty-six hours every vestige of the catastrophe had vanished. What remedies did I apply? None. I got the stings out with assistance, and, as I always do, adopted the philosophic dictum of "grin and bide." But I do know of instances which, instead of being food for mirth, have been fraught with anxious fears. One party could never venture out in the garden on very hot days without being stung, even when far away from the hives, and the consequences were serious in the extreme. Swelling of the parts immediately affected, accompanied by choking sensations at the throat, pain in the bowels, a rash—resembling big blisters—all over the body, and shooting pains in the head. The sufferer had to retire to bed, and the consequences were felt for days. This brings me to the point whence I started, and caused your readers to be troubled with this note. Cannot the matter be taken up by our medical members, and the search-light of modern science thrown on it? It is our duty to leave no part of our subject untouched which seems to call for further investigation.

"This is a marvel that runs at large,
Take it—you're welcome—no extra charge."

It is very common to hear our lecturers in bee-tents speaking lightly of stings and their effects, and assuring their hearers "they never get stung," and "there is absolutely no danger if you go about it the right way." Yes, that is just where it is; doing it "the right way," and before this "way" is learnt by many they must make up their minds to be stung. Of course there are "born" bee-keepers, and such seem to overcome all difficulties and master the intricacies of the craft by inspiration. But to all beginners I say you will certainly have a few stings at commencement, and however clever you may be you can never avoid them altogether. I heard an amusing instance which lately occurred at an exhibition:—One of the manipulators was going round the tent with a frame of comb showing the bees, larvæ, &c., to the visitors. "And do you never get stung! and is there no danger?" enquired a lady in the crowd. "Never, and there is nothing to be afraid of," replied the tyro. The words were scarcely out of his mouth, than he gave vent to a sudden shout of pain, and letting go one end of the frame he made a sudden grab at his trousers' leg! "But they *will* keep getting up my legs!" he said. As described to me, it was very laughable indeed, and I believe the crowd enjoyed the fun more than the "lectures" they had paid to hear. I could call to mind similar amusing instances spread over several years' experience but I have already dwelt long enough on this point.

Bee Statistics.—I think efforts should be made to tabulate returns all over the country of honey produced, number of hives kept, systems, prevalence of foul brood, &c. In a Blue Book on Agriculture in Ireland, 1894, there is an interesting account of the production of honey there during 1893, and a comparative table of results from the years 1885 to 1893. I give the first and last years:—

	Frame-hives.		Other Systems.	
1885:—	lb.		lb.	lb.
Run honey ..	46,196	..	141,285	
Sections.....	59,218	..	55,598	
Total ..	105,414	..	196,883	=302,297
1893:—				
Run honey ..	40,900	..	81,685	
Sections.....	91,413	..	34,365	
Total	132,313	..	116,050	=248,363

The year 1887, with a grand total of 459,386, was the best; 1892, with 192,457, the worst. Figures are also given of the quantity of wax produced and the number of stocks brought through the winter 1893-94. Why can't we get similar returns for England, Scotland, and Wales? I know it is difficult, for I have tried; but I would suggest that local hon. secretaries be provided with a number of printed forms, which they should get filled up by their members and others. Of course many foolish people tell "bee stories," and publish results which we know are exaggerated, but watchful and candid local hon. secretaries can do much to check this absurd practice.—Fred. H. Taylor, *Birch Fold Cottage, Old Hall-lane, Fallowfield.*

PREVENTION OF SWARMING.

[2357.] *Re* the above appearing on pages 496 and 506, what a good thing it would be for away-from-home bee-keepers if the plan there laid down would work out as bright in practice as it does in theory? I have, I may say, given the system a good and fair trial, and should be very pleased to award Mr. Simmins all the praise if the benefit had been mine; but I am sorry to say that with me it turned out a failure. I tried, first of all, a "combination" hive, and worked according to the "book" to the letter; but, curiously enough, that hive was a record swarmer. An isolated case, I know, but it stood for one. Since then I have tried two hives with the full-size chamber below, and with frames fitted with "starters" only. I have had these two in use now for six or seven years, and am heartily sick of them. The keeping of these lower frames clear of comb is a complete nuisance. It matters little whether we place these frames there expressly for comb-building or only as a "safety valve," the bees *will* build comb there, and there first, too, even with fully-built combs in the supers. But why should we expect otherwise? It is perfectly in accord with their nature to continue their combs downwards, and quite unnatural to work comb-building above the brood-nest. The theory of heat and cold as a factor in regulating comb-building I cannot accept, be-

cause, of course, the lower part of the hive is cooler than the upper portion. Yet I have had many instances of persistent comb-building in the empty frames below with supers unentered. Besides, where shall we find a place in the hive at the swarming season too cool for comb-building, when bees will actually build comb in the hive porch, or under the floor-board if need be? It seems to me that the bees first aim (if they have any aim), when commencing to extend their domains, is to fill up the gaps between the entrance and brood-nest. At all events, that is my experience, and so far I have about as much swarming from my two hives managed on the non-swarming plan as any of the rest, and, in addition, the attention required by the "non-swarmers" has been two to one compared with the others. I should imagine with the sliding chambers, as in the "Conqueror" hive, the labour in attending to the lower combs is lessened; but even then it must entail a lot of disturbance. I know of two or three hives (?) that appear to be the perfection of swarm-preventers, but these are bee-homes under the weather tiling of old buildings! They rarely swarm from these.—BEE CYCLE, *Sussex, December* 28.

MR. WELLS' REPORT FOR '95.

[2358.] The recent publication of what may be called Mr. Wells' annual report will doubtless revive the controversy never altogether at rest—if we may judge from the very general discussion on the subject—as to the value of double-queened hives.

Unless I am greatly mistaken, one of the main advantages claimed for the principle is the comparative safety with which hives containing twin stocks will pass the winter, owing to diminished consumption of stores and the resulting earlier date at which the stocks are in prime order for the work of the opening year.

Curiously enough some natural history literature that has recently come into my hands points to the fact that this very claim in favour of double and treble colonies was made as early as the thirteenth year of the present century, and then proved by exhaustive experiments to be based upon a sound foundation, although Sir William Jardine, writing in 1850 on the subject, takes occasion to doubt—as do many bee-keepers with whom I have come in contact—the possibility of a double colony of bees consuming no more stores, or even less stores, than a single stock. Facts are, however, stubborn things, and I see no reason why we should doubt the record of M. Galieu, a Swiss clergyman, author of "Le Conservateur des Abeilles." After expressing his wonder that such an apparent impossibility should exist, as the consumption by 20,000 bees of no more weight of stores than that by 10,000 bees, M. Galieu gives a table of the loss of weight of thirty-six hives under experiment from September 20, 1813, to March 31, 1814. The greatest loss in weight was equal to 19 lb. and the least loss to 8 lb., but of the thirty-six hives, the doubled stocks (or trebled in some instances) of which there were six, all stand at the foot of the list as regards loss of weight, and none are so high as the average consumption of all the hives.

These hives were not, of course, doubly queened, but as the argument is in favour of uniting very freely in the autumn, to gain enormous stocks for successful wintering, it should give pause to some of those gentlemen who have failed to find out this conspicuous advantage in the "Wells system."—J. W. JACOMB-HOOD, *The Avenue, Surbiton. December* 29.

HOUSE APIARIES

AND PREVENTION OF SWARMING.

[2359.] Referring to the frequent mention of house apiaries in your valuable paper of late, I send you a rough sketch of the bee-house I have had in use for the last eight years. As shown, the house stands due north and south, and the hives—twenty-eight in number—are all of same size for tiering up, arranged in two tiers, seven in each row, running the full length of two sides of the house. A window in one end enables me to see at a glance how matters stand with the bees, and I find it a long way better than using single or double-stock houses or hives on outside stands. During the eight years I have had this house only one swarm has issued from all the stocks kept in it. Any further information your readers may desire regarding it, I will be pleased to supply.—H. WILCOX, *Talywain, near Pontypool, Mon.*

[With the sketch sent by our correspondent before us—in which fourteen hives are shown in two rows of seven each, the hives in upper row being directly over those in lower one—we are curious to know how the stands are arranged so that the hives may be supported and storeyfied, or tiered-up. Perhaps our correspondent will kindly explain this point.—EDS.]

PREPARING BEES FOR THE HEATHER.

[2360.] In reply to your correspondent, "A Beginner" (322, p. 495), and to our Scotch friend (345, p. 519), I must first confess my entire unacquaintance with bees in southern districts. Some years, to my sorrow, the bees took a delight in swarming at the heather. In 1888 I tried the plan described by "Not too Young to Learn," except putting a rack of sections instead of shallow-frames underneath the brood-chamber. The first two years being fair bee seasons, it led me to think I had hit on a plan that was going to be a success; but

in 1891 three of my best hives worked on that system all swarmed, one at home, the other two at the heather ; these being the only hives that swarmed out of eighteen stocks. In 1892 I again tried it with two hives, but both swarmed. In 1893 I worked three hives on the same plan, and two of the three swarmed at the heather. I accordingly gave it up as a bad bargain which yielded me nothing but a lot of soiled empty sections. I may say that these hives always had two racks of sections over brood-nests. In 1894 I had eighteen hives at the heather ; of these one swarmed and another sent out a virgin swarm.

The heather season of 1895 has been one of the best with me since I started the modern system of bee-keeping, not one swarm leaving. — GEORGE ROCHESTER, *Black Hill, co. Durham, December* 28.

RECALL OF THE EXILE.

BRINGING BACK THE BEES.

[2361.] Florists sometimes complain that bees do them much mischief, and owing to the presence of apiaries in the vicinity of seed growers, seeds are unreliable—that is to say, varieties result by crossing. Not long since a well-known florist in Kent banished every hive, forbidding his men to keep bees, and bestowing anything but blessings on members of the K.B.K.A. in the neighbourhood. The same florist has since found that his seeds are insufficiently fertilised, and is now negotiating for the location of a hive of bees on the very spot from which he so recently banished them. *Verb. sap.*—A KENT BEE-KEEPER.

BEE NOTES FROM SUSSEX.

[2362.] I see that in the second paragraph of my last communcation (2341, p. 516), and in the fourth line, the numbers "five and six" should have been "four and five." I have numbered the hives, and must have inadvertently quoted from the wrong set of numbers.

I also omitted to state that the fifty combs remaining on hand are the surplus after filling up the whole nine hives with drawn-out frames of brood comb, old and new. Eight hives have ten brood combs each ; one has only six. The melted-down wax was derived from drone and broken combs, cappings, brace combs, and odd scraps. Next year, with such a stock of built-out combs ready to hand, and no more halving for increase, or experimenting to do, I am looking forward to a grand yield.

I should like to say that I have been perfectly successful in making two lots of 7 lb. each of soft candy. Given in glass-bottomed boxes turned upside down over the feed-holes in quilts, one is enabled to see at a glance the condition of the larder.

The weather here has been very trying lately for the bees. Much rain has fallen, there has been little or no sunshine for some weeks, and it is very damp, raw, and chilly, keeping the bees strictly indoors. May the New Year prove more propitious.—W. R. N *Sussex, December* 28, 1895.

A LINE FROM SOUTH AFRICA.

[2363.] By reading your very useful and interesting B.B. JOURNAL, I see there are many useful and valuable hints and instructions which we bee-keepers in South Africa can take note of. We have also received bees, also queen bees in splendid order. They were splendidly packed by your contributor, Mr. W. B. Webster, of Berkshire, England. We intend holding a honey show at our coming Port Elizabeth Agricultural Show in April, 1896. We hope to be successful with it. We intend showing both American and English hives. I see in your B.B. JOURNAL a great many advertisements of different styles of hives, also many new and useful appliances in bee-arrangements. I would be glad if some of your advertisers would send me a few of their price-lists or pamphlets for distribution, as many of our farmers have commenced bee-keeping. At present it is only in its infancy, and I believe it will become a general thing. The reading of your B.B. JOURNAL has so aroused interest among our bee-keepers here, that they also want honey shows, especially after reading of the "Royal" show in your issue of June 20. To read of 11,000 visitors at 2s. 6d., and the next day 20,000 at 1s. makes one cry, "Bravo, British Bee-keepers!" May Africa follow in your steps! Any papers, price-lists, or pamphlets will be thankfully received if addressed to Mr. J. Sterling, care of Messrs. Dreyfus & Co., Port Elizabeth. Advertise in South Africa, it will do no harm, but most likely will do much good. Wishing you and our many brother bee-keepers a Merry Christmas and the Compliments of the Season.—BEE-KING, *Port Elizabeth, Cape of Good Hope, December* 1, 1895.

MINORCAN HONEY.

[2364.] Allow me to say, in answer to A. Beille's questions (3307, p. 482) that we obtain our honey-bottles from Paris, and that by buying a large quantity (6,000 or 8,000 at a time, for instance, of various sizes), he can get them quite cheap. As to the contents of our samples, let me explain again that a small part of our (sainfoin) honey is obtained from the thistle and some aromatic herbs with which our island abounds. Next season I will try and find out from what plant quince aroma is

obtained—an aroma I had never noticed till A. Beille mentioned it.

Our pound is smaller than yours. Fourteen English ounces are supposed to be equivalent to sixteen of ours, and our pound only contains twelve ounces. But one can from the catalogue choose the number in kilos nearest the English pound, and the price would not probably differ much. If I remember right, our samples cost some two shillings per dozen.

That our honey is sweeter than yours is natural enough. The same may be said of Spanish wines; they contain more sugar, and are more alcoholic, than even the French wines, so they have to come to Spain to better their article. When my son was in London he bought some samples of honey. The sections were beautiful to look at; the extracted very white honey bought in Paris was also very fine. But they seemed to us somewhat insipid! As the proverb says, *contra gustos no hay disputa* — it's useless to dispute about tastes.

At any rate, our honey is now rapidly coagulating with the cold weather, and may not be marketable on that account. My thanks to you, Messrs. Editors, just the same. We shall be glad to have some English house try next spring's honey—for spring will soon be upon us — and will offer it at reasonable prices, such as A. Beille mentions. Let the market have a taste of it—that's all we can do from this rocky Patmos of ours.

I will conclude by wishing you and your numerous readers the Compliments of the Season.—EDITOR REVISTA, *Mahon, Minorca, December* 17, 1895.

DRIVING BEES.

[2365.] Referring to Mr. R. Williams' letter (2351, p. 524), I should like to know whether his plan of driving secures him from the viciousness of queenless stocks On only two occasions last autumn I experienced bad treatment, and in both cases the skeps were queenless—by far the fiercest of the two lots was a weak lot that had evidently been without a queen for some time.—D. R. IVEN, *December* 27.

YE OLDEN BEE-KEEPER.

(*Continued from page* 506.)

[2366.] I am afraid Ye Olden Bee-keeper, like some people in our own times, did not always practice what he preached. This opinion is based upon the following consideration. In the first place, he asserts, with the confidence of one who knows whereof he speaks, that a swarm is invariably headed by a *young* queen. But mark the following, copied verbatim from my ancient oracle: "When the swarm is settled in the hive, take the king or queen (call him which you please) gently by the wings, and crop off the ends of his wings, for whilst the king stays within the bees will not depart." And note also that this device was manifestly not suggested with a view to the prevention of swarming, but to force the bees to stop in their new home.

Now, had those responsible for this piece of advice been in the habit of putting it into practice, it is a little remarkable that sooner or later they should not have discovered a slight error in the former assertion.

One cannot help wondering also, whether it was really a matter of actual experience that warranted the following recommendation, and if so, what the inventor of "apifuge" has to say to it?—but here it is:—

"*To Prevent Stings.*—Torrefy fenegric meal, and pour on it juyce of mallows and oyle, and make as thick as honey. Anoint your face and all the naked parts of your body very well."

While on the subject of stings, I may inform readers of the B.B.J. that they may with perfect impunity investigate the domestic arrangements of the vespidæ, if only they take the precaution to hold in one hand a sprig of wild mallow! At least so my oracle says. And surely if this holds good for wasps and hornets, it should be equally efficacious with a hive of angry bees.

At any rate, there is a simplicity about this piece of advice lacking in the recipe following it, which informs you that you may secure immunity for your cattle from the attacks of stinging creatures by "smearing them all over with lion's fat!"

Personally, I should have most faith in the following (also recommended to the bee-keeper as a preventive of stings), and this not only by reason of my own experience of the pacificatory effects of the judicious application the modern smoker, but because I do not believe that by the close of the operation the bees would have enough life left in them to sting, or anything else:—

"Make smoke in a pot, and let it enter the small door of the hive for about half an hour, and so you have done your work for that business."

By-the-way, there is a curious appendix to the foregoing:—"Likewise you shall root out the nests and cells of the droanes, if you mingle barley-meal with the smoke."

Can any one kindly throw a little light upon the meaning of this somewhat obscure passage?

Thunder.—It is well known that bees object to thunder, and are hindered in their work by stormy weather. But if he suffer from these evils, it is, it seems, the bee-keeper's own fault. "Tinkling of bells (be it far from superstition) is a most present remedy for noise in the clouds and cruel hail." It is explained that the exhalations are thus driven upwards to the third region.

But there are other methods of keeping off a storm. "The skin of a river-horse or sea-

calf hung in the four corners of a garden will drive it away." And, if these articles are not ready to hand, "a hedg-toad shut up in an earthen pot" will have the desired effect.

Spring Cleaning.—This was *de rigueur* in the apiary in the olden days, and, moreover, willy-nilly, as soon as the winter days were gone, the inmates of the hive were compelled to "go forth to their work and to their labour until the evening," after this fashion :—

"When ten daies of the spring are past, you shall drive them forth to seek their meat, with smoke, and you shall cleanse and purge their hives, turning them up and down, for the smell of filth makes them sluggish, and spiders' webs hinder them." — GERARD W. BANCKS, *Green-street Green, Dartford.*

(To be continued.)

WIND AND WEATHER.

AS AFFECTING BEES AND HONEY PRODUCTION.

[2367.] What is embodied in the above heading must always be an important subject to the bee-keeper during the season that he expects his little labourers to gather in the harvest; and to myself in particular, it has been a fascinating study. But how many are there who consider that the state of the weather depends entirely upon the *periodical* direction of the winds? Many know that certain winds mean fine or wet weather, as the case may be, for the time being; but I wish to particularly point out that prevailing winds (exclusive of actual gales) stay with us for lengthened periods—averaging some forty days.

Our climate is considered changeable; and yet it is a rule that the weather experienced is the same every time with the respective periodical winds; and it will be found that certain winds prevail for periods extending from not less than twenty to sixty days. One can hardly say that there is a variation, unless it be in the duplication of periods, sometimes happening; because we get the twenty days from S.E.; forty days from E.N.E. with second and occasionally third periods following, with rarely less than forty from the W. with its usual and constant variations from S.W. to N.W.

An easterly wind in winter gives us our only periods of long-continued cold; in summer our driest and longest periods of heat; our best and most permanent honey weather. With the wind from the west in winter it is generally mild, with changeable weather. In summer the same wind is always cool and with such variable weather that honey-production is almost at a standstill, and should it remain in that direction for a second term, as too often happens, the season is practically a failure.

The soft winds of the west may be a grateful change during winter, but so far as honey-yielding is concerned during the summer months, they are a delusion, for no sooner does the wind settle there than we get those chilly showers so destructive to the honey-secreting glands of flowers.

Every one will remember the remarkably dry season experienced three years since. An easterly wind prevailed for what may be considered as three consecutive periods. In July came a change to westerly winds, and a term of cool wet weather followed for the usual period.

The double period of excessively cold weather experienced at the latter part of last winter was, as usual, in connection with an east wind, and its fine clear weather.

It is the rule for our south-eastern counties to be visited by dry, fine weather in the spring. The shortest of these periods is three weeks; though generally of much longer duration. Speaking broadly, our prevailing winds come from the east and west. On the eastern side, the more points to north, the cooler the weather experienced; the farther south the warmer it is; but the weather will not continue so long settled as from due east.

A southerly wind and a clear sky, we are told, denote fine weather. Now, a due southerly wind in this district is of extremely rare occurrence, so that our south-easterly wind, with its three weeks of fair weather, is the verification we have of this old saying.

We seldom have the wind standing at due west. South-west, with cool winds and showers in summer; temperate in winter, frequently veering to north-west for a few hours at a time, with bright sunshine. From the latter quarter, white frost in winter and spring, the wind seldom remaining there above two or three days at a time, hence the expression, "Three white frosts and then rain," as it almost invariably drops back to the rainy quarter. With the summer well advanced we do, once in several years, get a good honey season with a settled north-west wind. Though rare, the advent of such a period is not soon forgotten by the honey-producer. Thus, with what may be called a westerly wind, we get all those variations of temperature that have made our isles famous for the changeable character of the weather; and all of which changes it is possible to experience within twelve hours. On the contrary, to whatever point in the east the vane may be brought to bear, the wind from that quarter is usually so unvarying that it will scarcely shift either way for many days in succession, and the indicator might almost be glued in position, so immovable does it appear. Such is the character of the weather then experienced; with the exception of a slightly varying velocity of the wind, and the only settled weather we can rely upon is that from this direction.

A due north wind we seldom have, but whether occurring in summer or winter, it is usually a dull dry time; and in the former season, a honeyless period. E.N.E. winds at mid-winter, though usually dry, do not bring

us such clear skies as we have later with an E.S.E. direction.

No reliable forecast of the weather can be made from the action of the bees themselves, but the bee-keeper's manipulations may be largely aided by his careful observation of the direction of the wind, in connection with the season of the year, and having regard to the length of time it has already prevailed in a certain quarter. Where supers have been on in early summer, and freely worked during an easterly, or south-easterly period; upon the change of the wind to W.S.W., it has gone there to stay with its cool, changeable term of not less than forty days, and in this district it is useless to leave the surplus chambers on the hive as another period of heat will not, as a rule, occur until August, and may occasionally be delayed until September.

The month of July is nearly always very wet, and we are told that with rain on St. Swithin's day we are sure to have forty days to follow, with more or less wet every day. As a matter of fact this is our period of summer rain, and no matter how dry the rest of the year may have been, we can nearly always rely upon heavy rains commencing towards the middle of July; the wind at this time being south-west. Over a term of many years I have noticed only one very dry July, and that was when a good honey period of three weeks duration occurred, with the wind at south-east, a rare event for this month.—SAML. SIMMINS.

(*Conclusion next Week.*)

PREVENTING SWARMING.

[2368.] If your correspondent, "A Worker" (2347, p. 522), will write to me, I will give him full particulars of the lower-chamber, or nadir, plan of preventing swarming. I have had some experience of that plan, and my method of working it is the best I have yet met with.—H. SEAMARK, *the Apiary, Willingham, Cambs.*

Queries and Replies.

[1405.] *Old Combs for Honey Storing.*—In a well-known dealer's catalogue I read: "Honey extracted from cells that have been used by the queen will not equal that stored in cells kept expressly for marketable honey." On the other hand, Simmin's "Modern Bee Farm" says that "old combs are the most valuable stock-in-trade of the bee-keeper working for extracted honey;" in other words, advises the use of such in surplus chambers. I have several old combs which I wish to use, and shall be glad of advice on the following points:—1. Is there any appreciable difference between honey stored in the two ways mentioned, and if so, is it such as to affect its market value? 2. Can you tell me how to remove mouldy pollen from a few cells in some of my combs?—E. W., *Boston, December*, 1895.

P.S.—Many thanks for the directions for melting candied sections. The plan succeeded admirably.

REPLY.—1. We strongly advise the use of combs for storing purposes which have never been contaminated by brood-rearing. That honey stored in old brood-combs will be deteriorated in quality, we have no doubt whatever. 2. Mouldy pollen, especially if hard, can only be got rid of by pulling it away down to the mid-rib of the comb.

[1406.] *Soiled Combs and Early Swarms.*—I have just lost two of my stocks of bees from dysentery, and as some of the combs (which contain a fair quantity of sealed honey), are soiled by the usual dysenteric "spottings," I should be glad of your advice (1) whether it is safe to use these combs for other hives; also if those not soiled at all are fit to use again? (2) As to methods of preventing swarming recently appearing in the B.B.J., I should be very glad if you will recommend me some plan of *ensuring* early swarms, for I have kept bees now for some years, and cannot get them to swarm early; of course, all my bees are in frame hives.—F. A. COOKE, *Wolverhampton, December* 27.

REPLY. — 1. Combs from the hives, in question — if badly "spotted" — are best melted down. Those not soiled may be used again quite safely. 2. Early swarms depend so largely upon seasons, districts, and method of management, that nothing can be said to promote it more effectually than gentle and judicious stimulation by feeding early with flour-candy cake.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

W. H. S. (Sparkbrook).—Back numbers of B.J. can always be had at this office.

W. HARRISON (Upper Norwood).—*Queen Cast Out.*—1. We should suppose the queen received to be a newly-hatched virgin. The cause of her death can best be decided by examining the combs to see if the stock is now queenless. There may be another virgin queen in the hive. 2. The two lots could be joined by allowing a small passage over frames, but there must be only one queen if this is to be done safely.

Editorial, Notices, &c.

USEFUL HINTS.

1896.—Our first words of the New Year in the particular column appropriated to "Hints" bring to mind several things; one being the frequency with which the aforesaid hints have been "crowded out" of late by the numerous and very interesting items which have filled to overflowing our correspondence department. Seeing how much cause for gratification to ourselves there is in this happy condition of things, it is not for us to complain, and we have, let us hope, sufficient modesty to believe that readers are not wearying for anything we may have to say by way of "editorials" at this season. It may, therefore, be taken for granted that the satisfaction is mutual.

Then we must not miss the opportunity of wishing all possible good to Bee Journal readers in the year just begun, and may it yield for them better than the old. Its first few days have, however, been full enough of portent to make men wonder how 1896 will end! We, therefore, in all sincerity, repeat, may it bring nothing but good.

Weather.—With January here, and winter weather practically not yet begun, bees will require exceptional watching in view of the hard frosts that may be still to come. Stores will have been rapidly diminishing for some time past, and where the few sealed combs of food still remaining are far apart there is always risk of "starvation with plenty near at hand," as the phrase goes.

This makes it essentially necessary that stocks be not left entirely alone, unlooked at and uncared for during such exceptionally open weather as has hitherto prevailed. It will not be needful to go over all hives, nor do more than "lift" a few to get at some approximate idea of their weight, and any doubtful ones have their coverings raised in order to see how and where the bees are clustering. This known, a cake of soft candy placed just over the bees will generally be availed of by them, and, once taken to, the food supply can be maintained by renewing the cakes as needed. Thus the bees will be made safe so far as food, even in the hardest frosts. Some strong, well-stored stocks will, no doubt, have already started brood-rearing, and when this is judged to be the case every means should be taken to guard against extreme cold in the early spring months.

Postage of Correspondence.—The mention of this matter above affords an opportunity for saying a word to our correspondents regarding the scores of postage-stamps literally thrown away in forwarding communications for our literary department. We therefore ask them to bear in mind that "press copy" is charged at *book rate*, *i.e.*, a halfpenny stamp covers postage below two ounces in weight. Whereas at present 1½d. and sometimes 2d. in stamps is in most cases put on, where a halfpenny would suffice. In saying this we must explain that the letter must be left *open at the ends*, and have the words "*press copy only*" written below or over the stamp. To our regular contributors—or those who care to become such—we will be very pleased to forward addressed wrappers ready stamped for post, on application.

Size of Brood Chambers.—A good deal of discussion has of late taken place among American apiculturists as to the sise of brood-chambers for obtaining best results in honey production. Some contend that very large hives lessen the chances of success in the desired direction, and *vice versa*. Among the latter may be named the Messrs. Dadant, so well known as large producers of comb-foundation, but who are also extensive bee-keepers. The predilection of these gentlemen may, however, arise from the fact of Mr. Dadant, senior, having acquired his early bee-experiences in France, and to the general use of large hives on the Continent. On the contrary, the English idea has always been in favour of a moderate sized brood-chamber, small compared with those of Germany, France, and Switzerland. This preference may have been caused by the less prolific nature of our native bee in comparison with the ligurian, or other foreign races. But what we desire to draw attention to here is the fact that a well-known American bee-keeper—as reported in our pages some months ago—

gives, as a result of his forty-five years' experience, during which time he "has tried and tested more styles and sizes of hives than any other bee-man he knew of;" and comes to the conclusion that the best size of brood-chamber for honey production is one of ten frames, 13½ in. by 8¾ in. Seeing, then, how small is the difference between this and a brood-chamber of ten frames 14 in. by 8½ in., it shows a remarkable agreement with the British idea as to which yields the best all-round results, and that there is less variation in the requirements of countries situated far apart than most people suppose, so far as bee-craft. We must defer remainder of "Hints" till next week.

ABOUT OUR BEES.

By Henry W. Brice.

(*Continued from page* 508, *Vol.* xxiii.)

(IV.)

RACES OF BEES.

While much of interesting matter might be written on the various races of bees, a passing reference to those varieties which are least known or cultivated will suffice, seeing that British bee-keepers concern themselves only about three or—at most—four kinds of bees for general use in this country. These may be classed as the black, or common native bee, sometimes called the German bee; the Carniolan, so called from the district (Carniola, in Austria), from whence it comes; and the Ligurian, or Italian Alp bee. Taking them in the order named, we have first—

The Black or Native Bee.—To speak correctly this should be called a brown bee, for the black bee, as known in this country a few generations ago, is very rare indeed, and promises to be ere long a thing of the past. Some bee-keepers claim to still have it in their apiaries, but all specimens yet seen by myself have been unmistakably hybridised or crossed by one or other of the foreign varieties. There are, however, good reasons for supposing that the old black bee, in its pure state, was for all-round good qualities very hard to beat. The four main points by which a bee should be judged are (*a*) working powers; (*b*) good temper; (*c*) prolificness without inclination to swarm; and (*d*) hardihood, or good wintering qualities. On most of these points, the nearer we get back to the old native bee the closer are we to securing generally satisfactory results.

Carniolans.—The gentleness of these bees during manipulation has earned for them the title of "the ladies' bee," and certainly when judged by the pure strain—as received in this country from its native habitat—it is particularly easy to handle, besides being very prolific and hardy. Having said this, I know of no other good quality they possess. Swarming is their bane. No sooner do they get fairly strong in numbers, and honey begins to come in, than out they come—prime swarm, first, second, third, and fourth casts, which means good-bye to any chance of a surplus from them. On account of their good temper and rapidity of increase, Carniolan bees have been imported largely into this country to the detriment of our own variety. The Carniolan is distinguishable from the black bee by rows of greyish white hairs forming light-coloured bands at the several segments of the abdomen.

Ligurians.—These were first introduced into this country some forty years ago. The ligurian is more attractive in appearance than either of the above-mentioned bees. It possesses many excellent qualities; in fact, I look to it as the base from which, by careful selection and crossing with our own bees, the most desirable attributes may be obtained. In securing really good results, however, much difficulty is experienced in procuring really first-class queens from breeders in the Italian and Swiss Alps. The percentage of mothers which turn out wholly satisfactory for the purpose is very small indeed. In fact, to send for a single queen on the chance of receiving value for the trouble and outlay is not worth doing. The ligurian bee is distinguished by the more or less yellow colour of the several segments into which the abdomen is divided, the queen sometimes having as many as five of these coloured bands. Her legs are also of a brownish yellow colour. The workers are generally "three-banded," and the drone is distinguished by the bronzy golden colour of its abdomen. The ligurian bee was a few years ago credited by some with the possession of a longer tongue than that of the ordinary brown bee, but this fallacy has now nearly died out. Beyond all question, however, they are more gentle in character, and in my opinion the best strains of Italians are better honey-gatherers than our own bees, but the difference in strain so far as this latter point is very marked indeed. Ligurian queens are more prolific than ours. They are fairly good winterers after becoming acclimatised. When swarming, ligurians have a very objectionable habit of breaking up into small clusters, and spreading themselves out over the ground, rendering hiving difficult at times.

When first received from Italy these bees are sometimes infested with the parasite known as the blind louse (*Braula cæca*). I have found as many as seven of these objectionable parasites on a single queen. But for the fact that this bee-pest does not thrive in this country it might become a serious trouble to the bee-keeper. Pure queens of

this variety differ a good deal in colour, some being almost bright yellow, while others are so much darker as to be called "leather-coloured." This makes it difficult to base an opinion as to the purity of queens upon their colour. Except for mere prettiness, this point is of no importance in a queen; so long as her progeny is distinctly marked we may be satisfied that the queen is pure bred. Ligurians are less subject to "robbing" than any other race, so determined are they in protecting their stores from pillage by robber bees.

Cyprians and Syrians.—Of these two races I have no good word to say, good honey-gatherers though they undoubtedly are, and prolific, too, beyond all question. Inveterate swarmers, and very bad winterers to boot, their worst point, however, is uncertain temper. Once they start stinging, at least one-third of the colony takes the business in hand, and will persistently follow the unfortunate object of their fury for quite long distances away from their hive, and even indoors if they can find a way therein through crack, cranny, or keyhole, making the apiary for days after a place to be avoided. Admittedly the prettiest bee known, they are certainly at times the most vicious of any variety under cultivation, and, after trial, I promptly discarded them on this account.

Among the many other races of bees, which from various causes are found unsuitable for cultivation as honey-producers, may be mentioned: *Apis dorsata*, the giant bee of India. Many attempts have been made to domesticate these bees, all ending in failure. They are a migratory race, building their combs during the fine season under boughs of trees; staying for a time, and then off to fresh pastures. When the wet season has set in they are found in hollow trees and holes in rocks, waiting for the return of finer weather to repeat their *al fresco* operations. *Apis fasciata*, the Egyptian bee, is indigenous both to Asia Minor and North Africa. In 1868, it was tried in England, but failed ignominiously. Excessively vicious, enormous swarmers, and queen-rearers extraordinary—300 queens at a time having been recorded from a single hive. *Apis Indica*, a small black bee found in the East Indies, very subject to the ravages of moths, and produces but little surplus honey.

Trigona carbonaria, a genus of social bees of which little was known among bee-keepers here until recently, when our senior Editor, Mr. Cowan, had sent to him a stock of these tiny bees from Australia, which were exhibited to a delighted audience at the conversazione of the B.B.K.A. held on October 10, 1895 (for full description see B.B.J., October 31, 1895). These bees are natives of Australia, and, though possessing great interest for the naturalist, are incapable of rendering any service as honey gatherers.

Hybrid Bees.—Having considered all the varieties of bees likely to be of service and also capable of domestication, the question naturally arises which is most fitted to render the best all-round results to those who cultivate bees for profit? In deciding this question for ourselves, each must take into account the special circumstances of his own case. In doing this, constitutional infirmities, aptitude for bee-work, time at disposal, location, with any other points likely to influence us, must all be considered. In all vocations some persons are pre-eminently suited for the work, while others will inevitably bungle if they try it. This is most true with regard to bee-keeping, because, let folks say what they please, bees will at times sting, and, if this is a very serious drawback, a bee must be chosen whic is least likely to assail the manipulator. Carniolans or Ligurians are the bees for such a bee-keeper, who must put up with the disadvantages above mentioned. Personally, I may say that no pure race of bees have ever given me entire satisfaction, and after trying many kinds, I have come to the conclusion that carefully-bred hybrid bees, resulting from a cross between selected ligurians and blacks, realise more completely and fully my idea of what a bee should be able to do for its keeper than any other.

Some, I know, are prejudiced against hybrids as being noted for viciousness; but in most cases these vicious bees have, more or less, traces of the Cyprian, Syrian, and, may be, Egyptian blood in them. Another thing which helps to produce a cross-graiued bee is "in-and-in breeding," which I consider tends to loss of temper and deterioration of working qualities. To such an extent has this been permitted that many hives in this country are occupied by bees possessing a maximum of bad characteristics—including disease—with hardly a good feature to relieve the monotony. Of course all first crosses will not be equally good-tempered, but when the method I have already laid before my readers is more generally adopted and appreciated, vicious bees will be the exception, and not the rule. The introduction of fresh blood into our apiaries is one of the first principles conducing to success, and if practised with care and intelligence good results are sure to follow.

A great deal was said of the cross between Cyprians and Carniolans, but my experience of this cross was disappointing in the extreme. Swarming was developed in a high degree and of five queens reared in this way in 1892 not one survived the following winter. Another cross I tried was between blacks and Cyprians, the result being the most truly vicious bees I have come across. They not only stung the operator, but smoker, quilt, hive, trees, and everything that was within reach was pierced by their stings. This cross brought about the only really bad case of robbing I ever had.—*Thornton Heath, Surrey.*

(To be continued).

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

BEES REFUSING FOUNDATION.

A SERIOUS QUESTION FOR BEE-KEEPERS.

[2369.] Would you kindly allow me space in your journal to refer to a grievance that has caused bee-keepers in this neighbourhood a serious loss for the last two seasons? I allude to contaminated, if not adulterated, super foundation. In 1894, for the first time, I found the super foundation made by a certain dealer (who up to then had supplied foundation in every way satisfactory) refused wholesale by my bees. On making inquiries, I found that all who used this particular foundation had the same complaint. Not believing it to be adulterated, I asked the advice of a well-known member of the Irish B.K.A., who thought that probably the use of soap, or some similar lubricant, in making was the cause of the trouble. Thinking, if this was so, it could be easily remedied, I wrote to the dealer from whom it was obtained, pointing out the refusal of the bees to work on it, and the probable cause of this refusal, asking him to replace all remaining on hand with pure foundation for use in 1895. He agreed to this, but denied the use of soap or any objectionable matter in its manufacture. In good faith, I again used the same maker's foundation during 1895, and, with some difficulty, persuaded my several bee-friends to do the same, with the result that I myself took off over 600 sections fitted with sheets of this foundation entirely refused, and not even touched by the bees. Many others, completely drawn out, filled, and sealed *on one side*, the other side being untouched. Some sheets were torn into holes, several of the sheets had become of a pale cream colour, others a bright orange, &c. I have kept a few specimens to send to anyone who cares to see them. At one time I had about 1,500 sections on, and was about to put on hundreds more, having at the time over thirty splendid stocks of bees. Some hives had then eighty-four sections on each. Finding that the foundation was again being refused, though honey was plentiful at the time, it became clear where the fault lay, and I proved it by getting some super foundation from Dublin later on, and using it alongside the other. This continued off and on until late in September, during which month I used the Dublin foundation beside the other, with the result that though the season became very unfavourable, the Dublin foundation was at once more or less drawn out, and some filled with beautifully-finished comb honey, and this beside the English foundation that had been on for months untouched. My experience is that, no matter how poor a season may be, bees well up in sections fitted with pure foundation with more or less honey coming in, will draw out every sheet of foundation uniformly; and I assert that at the end of a season, if there should remain any sheet of foundation untouched, it is contaminated in some way, and if many sheets are refused I am satisfied that the foundation is impure. Bee-keepers, as a rule, have so little knowledge of the purity, or otherwise, of foundation that they take what is sold to them in good faith, trusting to honesty and principle in business. It would be interesting to know how many bee-keepers are there in England who, in '94 and '95 got their share of this same super foundation, and put the blame of its being refused by the bees on the season, instead of on the dealer who supplied it. I consider that, during the last two seasons, I lost about the value of 1,200 sections from this cause alone. A working gardener near here, who makes and furnishes his own hives (numbering twenty-six), and who used this foundation, is much to be pitied. He had over 300 sections on this year, and I saw piles of section racks taken off empty through same cause. This man used to get from forty-two to eighty-four per hive before using it. Another who has seven hives, to my own knowledge, took off this season and last every single section empty just as put on, not getting one single section of honey during the two years. It needs no saying how seriously this matter touches every bee-keeper in the kingdom. I have more than once found that some dealers forget at times how completely bee-keepers depend upon them for sending on proper materials for bee-use. Among such causes of complaint I cannot help mentioning a dealer who supplies divisible super boxes so made that if full sheets of foundation are used the bees cannot possibly finish the outside section at each end, thereby ensuring six unfinished sections in each set of three boxes. Out of about 1,500 sections put on this season, I had between 700 and 800 saleable ones, though for years past I never got such a low price for section honey nor found sales so slow. Still I have sold over £23 worth of honey, and have still some on the market. I used to have the finest section honey in Ireland, and get the highest price (10s. per dozen) until this year, when I had to sell at 8s. per dozen. This is very disappointing while one has a large number of hives.—T. KIRWAN. *Co. Galway, January* 1, 1896.

P.S.—The Congested Districts Board are very successfully extending bee-keeping in certain districts of Ireland, and their repre-

sentative, Mr. O'Bryen, everywhere I go seems to have made hosts of friends among bee-keepers. Their interests in his hands leave nothing wanting.—T. K.

[The importance of avoiding such faults in foundation-making as are complained of in the above communication must be so obvious that we trust it will not be lost on any dealers to whom the remarks of our correspondent justly apply.—EDS.]

BEE-KEEPING IN IRELAND.

ITS FUTURE IN THE CO. KILKENNY.

[2370.] My purpose in writing is to give some more "Notes" on bee-keeping in this county. I have been working frame hives for eight years with more or less success each year. A few others here besides myself are working on the modern system, but my neighbours don't make much progress. They do no doubt like to have nice sections, such as I have myself, but they also like me to do the work for them, but that I cannot do, having fifteen stocks of my own to cater for, and having only my leisure hours to do it in. Being a public servant, I can do little more for others than give advice. The country around here is fairly good for honey-gathering, although we have few honey-producing plants, except such as grow spontaneously; but with fine weather a good average crop can be secured, notwithstanding the fact that Ireland is remarkable for the humidity of its climate. From the accounts I read in the BEE JOURNAL of the different honey-plants grown in England, I conclude that Irish bee-keepers can never be quite so successful in the craft as are our English friends. The farmers of Ireland, so far as I know, do not sow white clover or sainfoin in their meadows as the English farmer does. White clover seems to be indigenous to this country, for a field planted with red clover, and not broken up for some time, will produce white clover in abundance. Most pasture-lands here also seem to produce the plant spontaneously, as do the roadsides and railway embankments.

What seems to be most wanted in the county is a bee-keepers' association of some sort. I have exhibited clover honey of the finest quality at the local honey show here for the past seven years, yet nothing has come of it in the shape of an association. The first year I exhibited no prizes were offered, but every year since the late Earl of Bessborough offered prizes for honey, and his successor has kindly continued the donation this year.

The Iverk Farmers' Society is now in a flourishing condition, its annual show being held in Bessborough Park, and if a few additional classes for honey and bee-appliances were added to its schedule, it would, I am sure, give an impetus to bee-keeping in the locality; while the sum required for the purpose would only be small, bearing in mind Viscount Duncannon's prizes, which I am sure will be continued. Bee-keeping is inseparably a part of agriculture, and as such the Iverk Farmers' Society would do well to take some interest in it. If Colonel H. V. Stewart (president of the society) could be put in communication with Henry Chenevix, Esq., honorary secretary of the Irish Bee-keepers' Association, we might probably perhaps have the bee-tent at the show next year. Most of the local gentry are already favourably impressed with bee-keeping, and if an effort is made to put the industry on a proper footing it would, I feel sure, succeed. One paragraph in the report of the Irish B.K.A. says:—"Persons who believe that lectures on modern bee-keeping could be given with advantage in their neighbourhood are requested to communicate early in the year, if possible, with Henry Chenevix, Esq., hon. sec., 15, Morehampton-road, Dublin." This reduces the matter to the query, Who will do it?

The Irish Bee-keepers' Association could do quite as much good work for the labourer and cottager here as in the congested districts of Ireland, and, perhaps—outside of the Bessborough estate—such help is almost as much needed in these times of agriculture depression. Some years ago the labourer and cottager were receiving at the rate of from 55s. to 60s. per cwt. for their little pig; now they cannot get more than half that amount. I believe the Irish B.K.A. have very few members in this county; but they had their bee-tent in Kilkenny at the Royal Agricultural Show about 1881 or 1882, but since that time practically little or nothing known of that body down here. I ask the question—How is this?—M. K., *Piltown, co. Kilkenny, December* 13, 1895.

RE QUEEN WASPS AND BEE STINGS.

[2371.] I think I may safely claim that we have killed the first queen wasp for '96. She was observed flying in my garden on January 2, which was a warm, sultry day; and was promptly caught and despatched by my groom.

Your correspondent F. H. Taylor (2356, p. 4) asks if some of the medical bee-keepers would explain the causes of the different effects of bee-stings, in different parts of the body, and in different people. Last spring I sent you what I believe to be the most accurate description of the constitutional effects of bee-stings yet given. On looking the matter up in Quain's Dictionary of Medicine, I read that:—"The severity of the sensation, and of the local and constitutional effects of stinging depends, not only on the quality and quantity of the irritant, but also on individual susceptibility—and the greatest difference is observable amongst individuals, and even in the same individual, at different times. There seems, however, reason to believe that the system becomes more resistant to the

effects after repeated stingings, as is seen amongst bee-keepers. Some variations in the violence of the poison occurs with the season of the year."

As regards the increased effect produced when the sting is inflicted on the face, mouth, eyelids, or other very sensitive part, the cause of such increased effect lies in the fact that in such parts the skin is thinner (than on the hands for instance) and there is a more plentiful supply of fine nerves and blood-vessels, and, moreover, a greater abundance of loose cellular tissue beneath the skin. From the above it would appear that individual susceptibility and custom (or non-custom as the case may be) are the most important factors in determining the effect likely to be produced. Moreover, I am of opinion that a very susceptible person may become proof against the effects of stings, *but that such immunity may wear off*, should he not receive occasional inoculations. Personally, I always find the first stings of the season the worst to bear, and produce the greatest swelling, though never but once have I experienced any constitutional symptoms; and on that occasion I was at a loss whether to ascribe such symptoms to a special virulence on the part of the poison, as the quantity was not great (only five stings) or to some slight departure from health, and therefore resisting power, in the subject. — PERCY SHARP, L.R.C.P., M.R.C.S., L.S.A., *Brant, Broughton, January* 6.

DRIVING VICIOUS BEES.

A BEGINNER'S EXPERIENCE.

[2372.] For the benefit of "Self Taught" (2354), I wish to give my experience in driving a vicious stock last September. I went up to the said stock with all the sangfroid to be expected from a novice who had only driven one or two stocks previously, and gave a dozen puffs of smoke in at the entrance, then stuffed the hole up, and made ready to lift the skep from its floor-board. All this occupied about five minutes. I then lifted the skep, but dropped it again like—shall I say—a hot potato! for the bees gave me what some people term "beans." They "came *for* me" all over—head, legs, and arms. Nothing daunted, however, I strengthened my armour and "went for them" again. Having previously seen that my smoker gave out a good volume of smoke, I reciprocated their kind attention, and in return gave *them* "beans" in the shape of some good puffs of smoke. I then stopped the entrance-hole, waited about five minutes, and then lifted them up again, and, lo and behold! the affrighted bees ran up helter-skelter into the skep placed above to receive them, as though thankful to me for offering them a means of escape. I have them now in a Price's night-light box, which latter is put inside a cube-sugar box with paper to keep them warm. These bees are not at all vicious now, but I may tell you the results of the "beans" they gave me were visible to all beholders, short-sighted or otherwise for quite a week. My arms also swelled up to twice the size, but beyond this I felt none the worse for my "driving" exploit.

I have six stocks packed for winter and will let you know next year how I get on with them. I think if bees are a bit vicious they should have given them a good dose of smoke and five minutes to consider it. This done, they will usually arrive at a unanimous agreement that they might be in better quarters, and will thank you for helping them out of a fix by offering them this desideratum. — E. PARSONS, *New Cubbington, Warwick.*

BEE-KEEPING STATISTICS.

[2373.] I was much interested by a paragraph in last week's JOURNAL occurring in Mr. Taylor's article "Still More Chestnuts" (page 4), in which he dealt with the matter of statistics connected with apiculture. I quite agree with him as to the usefulness of this information. Statistics showing the position and progress of any art or craft, cannot fail to prove of great value to those interested, and the fuller in detail the more useful, manifestly.

It was with much surprise I learned from the article mentioned that such statistics are not published by the Board of Agriculture, in view of the fact that in England the bee-keeping industry is fast becoming an important one, whilst in Ireland, where it is but a small item, comparatively, the fullest details are published.

Statistics of bee-keeping in this country are required by the Board of Agriculture, and are furnished (which may not be generally known) by that efficient body the Royal Irish Constabulary; a constable in every district throughout the country being appointed in turn each summer to take the agricultural statistics, and apiculture—being a kindred branch of the same and apparently considered of importance—is also dealt with in detail.

It is a regrettable fact that the bee-industry in this country does not prove a more lucrative one, especially just now, when the inhabitants are suffering so much from agricultural depression, but unfortunately one of the main causes of the failure—climate—in the one all-important industry would prove a hindrance to success to any great extent in the other. Indeed my humble experience which, although practical, extends over but a few years, has brought me to the conclusion that the uncertainties of our climate is the one great barrier to a marked success here; all other conditions but those which are due to nature we can alter by some means or other of course. However, grumbling at the unalter-

able laws of nature will not benefit the cause of our craft, or any other, it is clear; nevertheless, many of us feel betimes a spirit of discontent rising within us when we ponder over all the energies of mind and body expended on a project rendered fruitless, almost, owing to the influence of one factor over which we can have no control. From accounts published from time to time in the BEE JOURNAL, it seems clear that climatic conditions are much more favourable to bee-keeping in England, and notably in the south—though climate brings disappointment there, too, at times—than they are in this country, where the finest white or Dutch clover is often valueless to our little labourers, owing to wet or cool summer days and nights.

I read with much interest the reports furnished by your correspondents of their bee-doings, and am indeed amazed at the amount of surplus which has been taken in some instances, particularly in Mr. Wells's case, and in that of others following his system, the amount of wax taken by Mr. Wells appears to me to be even more remarkable than his honey produce; and the very small item of expenditure—especially last season's £4 1s. 9d.—employed by him is also very surprising. Indeed, I think the fact that such results are attainable in our British climate, where the summers are short and cool comparatively, speaks volumes for the systems and management in vogue, and I trust our Editors may often be enabled to publish such gratifying reports, as they must be a stimulus to many of us in the ranks, and serve to raise enthusiasm in our cause. I trust I have not trespassed too much upon your valuable space—that is, provided you consider the above worth placing before your readers, in which case I might find time occasionally to send other small contributions to our JOURNAL. Wishing all bee-keepers a Prosperous New Year.—SEA BEE, *co. Louth, January* 4, 1896.

DEALING WITH FOUL BROOD.

[2374.] You may remember my writing you respecting the treatment of some dozen stocks of bees affected with foul brood belonging to members of our association, stating how I was going to proceed in trying to affect a cure, and soliciting your opinion on the same; as you wished to be informed of the result I have pleasure in sending it.

After the bees had ceased flying for the day I got a skep and cheese cloth, shook the bees from frames of two hives (selecting the youngest queen). I run bees into the skep, tied cheese cloth over them and deposited skep in a cold outhouse. We next burnt the frames, quilts, and all loose things about the hives, and left them for the owner to disinfect preparatory to returning the bees. This I did two days later, putting them on new frames and full sheets of foundation. I found a lot of bees dead on untying the skep, owing, as I thought, to the weather being very hot at the time.

I had put them in the coldest place and asked the owner to syringe the skeps the next day, and as the cheese cloth was very coarse, I am not sure it was the heat, but cannot suggest a cause for so many bees dying. The bees were fed with medicated syrup, and built out from nine to eleven frames each, and reared a fine lot of healthy brood. When packed for winter they were in the best of condition, with plenty of stores, brood, and bees. Several members of our association are trying the medicated food used above, without destroying the combs, with what result cannot be told until the spring, when I shall be pleased to report on it more fully, after the bees have been examined.—J. MARTIN, *Expert, Bristol B.K.A.*

"VERIFY YOUR QUOTATIONS."

[2375.] In my last "Chestnuts" (page 5), through a printer's error, the couplet I quoted from "The One Hoss Shay," by O. Wendell Holmes, falls quite away from the mark. It should read:—

"This is a *moral* that runs at large,
Take it—you're welcome—no extra charge."

The substitution of "marvel" for *moral* altogether destroying the appositeness of the quotation. So, lest "A Critic" should be first to point this out, will you kindly insert this correction?—FRED. H. TAYLOR.

YE OLDEN BEE-KEEPER

(*Concluded from page* 9.)

[2376.] If any reader of the B.B.J. can help me to identify a green herb called Tithymal I shall be much obliged to him. I mean the particular species which was known in mediæval times by that name.

I do not seek this information from mere idle curiosity but because I want to go and root up any that may be lurking, possibly disguised under a modern sobriquet, in the vicinity of my apiary.

I am seized with this desire because (according to apiarian authorities in the olden days) it is a deadly herb and responsible for about all the diseases incident to bee life. The scourge shall overtake them if "they feed on tithymal or taste the juyce of it."

Of course, it is some consolation to learn that its deadly effects may, to some extent, be counteracted with the "shell of a pomegranate pounded and mingled with honey and sharp wine." But while submitting this treatment my oracle insists that "if any grow thereabouts it must be pulled up by the roots."

There is another matter about which I should be glad of some information. Bees, I

find, in the olden days suffered from a mysterious complaint called the "dark sight"; which, by the way, might be cured with the fumes of origanum. What is the "dark sight?"

Enemies.—Ants were regarded as enemies by ye olden bee-keeper. But, "they shall not," he says, "come near a beehive of honey if you put white wool about it, or enclose it in potter's earth."

Neither of these protective measures commend themselves to me. I should prefer the following as being simpler. "Ants may be driven away with the heart of an owl."

But there are other methods. You may "stop their holes with sea-mud." "Water mingled with unburnt brick" also "is a great enemy to them." The heart of a bat, too, or the smoke of a sheath fish will "hinder them from coming forth."

Our harmless little friend, *braula cœca,* was looked upon with suspicion, but he had a different name in those days. Various plans were recommended with a view to his extermination—*e g.,* "you may cure them with a wild fig, burnt to a smoke."

But wild figs have proved futile, and he is still to the fore. Personally, I have never plotted against his life. I cannot help thinking that he plays the part of the judicious leech, and that his special mission is to regulate any phlethoric tendency, engendered by a sedentary life, inimicable to the health of her majesty, and other favoured inmates of the hive.

Bee Pasturage.—To judge from old bee-books, one would imagine that a very radical change must have come about during the last two or three centuries in the flora of this country, or that the habits of *Apis mellifica* have undergone considerable modification. I gather from British bee-keepers' guide books contemporary with the age, that in the time of the commonwealth the bees of Great Britain ignored the clovers, and turned up their noses at the rosaceæ. They frequented, it is true, the shrub cytisus, but as a rule they appear to have condescended to nothing less aromatic than thyme, sage, and savory. Is it possible that these authorities can have relied for this information less upon actual apiarian experience than upon the works of those who wrote of sunnier climes?

This idea appears to me to be favoured by the following passage:—"The best time to take honey and combs is when the Pleiades rise—that is, according to the Roman account, about the beginning of May. The second time to take them is at the beginning of autumn. The third time is when the Pleiades set—that is, about October. But there is no set daies for this, but as the combs are in perfection, for if you take the honey forth before the combs be completed the bees will not endure it, and they leave working for thirst."

Speaking of this country generally, I fear bee-keepers will not find many combs "in perfection" by the beginning of May; while it certainly seems to me that October is a trifle late for "taking the honey forth."

Feeding.—"When the bees are young you must set them meat in basins, honey, wine, wherein is thyme and savory, full of flowers that they may not be suffocated. Others bruise raisins and mingle thyme to it, and make lumps, and with these they feed the swarms very well." Instructions are given for both summer and winter feeding.

At any rate, our old friend was not behind the modern bee-keeper in his appreciation of the importance of a liberal commissariat. This is abundantly manifest in his directions for the management, not only of the apiary, but of beast and bird, the oxen and asses, the he-goats and she-goats, the hogs and the hens.

And this system of high feeding seems to have been extended also to the culture of the herbs of his garden.

This is how he set to work to produce fine cucumbers:—"You shall soak your cucumber seed in man's blood. The man must be a young and yellow-haired one, for his blood hath in it more hot and effectual virture."—GERARD W. BANCKS, *Green-street Green, Dartford.*

HONEY IMPORTS.

The total value of honey imported into the United Kingdom during the month of November, 1895, was £1,762.—*From a return furnished by the Statistical Office, H.M. Customs.*

WIND AND WEATHER.

AS AFFECTING BEES AND HONEY PRODUCTION.

(*Concluded from page* 10.)

The periods of easterly winds return at certain seasons of the year, if not with exact regularity as to date. "As the days lengthen will the cold strengthen" I have found quite true, as it is the rule for easterly winds to prevail from the latter half of winter. The later their first appearance is delayed towards spring the less of real winter we have; and when they do not come on until March is well advanced, we have a long dry spring and warm sunshine.

These winds always leave us not later than July, and always return at least once more towards autumn. If we get them as early as July, as in the year mentioned, the wet season comes earlier. August is the month for the almost unvarying return of these fine spells of east wind, and their period of duration at this time, being always from the S.E., is three weeks. But if we miss this genial spell of fine weather in that month, it is sure to come in September, and never later. As a rule, after its termination no further prolonged fine weather occurs until the new year, and for the

rest of the old year the short spells of cold weather and cool, fine days occur with westerly winds, while veering for a few hours or days to N.W. A peculiarity with our east winds is the fact that early in the year their direction is E.N.E., towards summer E.S.E., and upon their return at the latter part of summer nearly always S.E.

Occasionally warm days may raise the hopes of the bee-keeper, but no permanent benefit will be experienced until the usual term of at least forty days has passed.

Some people place a lot of faith in the moon's changes, and I once came across a tabulated scale showing that if those changes take place between certain hours, while the wind at the time is from certain directions, the weather for the next week will be according to the rules laid down. If the moon changed near midnight the finer was the weather to be; if near mid-day the more unsettled. The moon is evidently changing all the time, and I do not see what effect the various phases have. For years I conscientiously studied the table in relation to the weather experienced, and had to confess that I was unable to confirm the author's predictions.

If the new moon lies on her back she is supposed to have her lap held open to receive copious rains, and I must say the saying generally receives practical confirmation in this respect. On the other hand, if on its appearance the moon is upright it is supposed to indicate fair weather.

I suppose most of my readers have heard that "where the wind is when the sun crosses the line in March, there it will remain for the next three months." Whether there is any connection here is open to doubt. It is the usual time for the period of east wind which lasts for many weeks; and even if the vane on that day shows variations all the way from north to south on the western side or if it stands at any one point in that direction, it is almost sure to veer to east within a few days for the usual spring period.

A warm, breathless day after a period of bad weather may be taken as an indication that the long desired change of wind is at last occurring. A severe gale, too, is often the forerunner of a change of wind and of temperature. Terrific winds, from whatever quarter they may come, strange to say, last three days and seldom longer. To provide against accidents at such times it is advisable to have hive covers always weighted. The greatest safeguard to the stock itself, if as it should be, is its own weight, providing it is not on long legs. During an easterly period of wind in May, a three days' term of very high winds will invariably occur, but in this case there is no change to follow, unless it be a greater degree of heat. Naturally we are subject to gales at any time while the wind is from the west, but it is not comforting to know that it is the exception for us to escape a three days' blizzard during the period of an easterly wind in winter, something quite unlike our usual cold winds, and almost freezing the marrow in one's bones.

As a warning in relation to the brood-nest in spring, the apiarist will do well to remember that after a hail-storm a frost occurs at night, from the fact that the wind veers to N.W. while such storms are about.

The foregoing statements are based upon many years' careful observation, showing that there is a great deal more method in weather changes than is usually supposed; and while the same conclusions may not be correct in detail for all parts of the country, it will generally be found that certain winds prevai for lengthened periods, and that no decided change in the current weather will be experienced until it is time for such periods to terminate.—SAML. SIMMINS.

Queries and Replies.

[1407.] *Bees Deserting Swarmed Hive.*—My only hive gave me on June 23 last a rack of 21 1-lb sections well filled, and four days afterwards sent off a fine swarm, which I now have. A week afterwards I examined the parent hive and found it well stocked with bees and plenty of honey. Three weeks later I went away for a fortnight, and on returning I saw robbing had taken place. A little carbolic acid was at once put on alighting board, and next evening, on examining the hive, I found it completely empty of bees but with plenty of honey. Of the nine frames all the outer ones were quite full, the centre ones being well filled about four inches down. A few cells contained dead drones, not more than a dozen. The robbing could not have been going on very long, as not more than a pound of honey had been taken, judging by the empty cells. When I first noticed it I found bees coming from the old stock hive into the one in which I had placed the swarm. I should be very pleased if you could throw any light on the subject. — JNO. T. CORBETT, *Woodstock, January* 1.

REPLY.—There is little doubt that the young queen hatched in the parent hive has been lost on one of her mating excursions. The bees, finding themselves queenless—and without the means of raising one—have evidently joined their old queen and bees of the swarm.

[1408.] *Shelter for Bee Location.*—I own four stocks of bees in frame-hives and six in flat-topped skeps, and, having changed my residence last Michaelmas, have as yet left the bees behind. I have done this because the large garden here lies rather high and is unsheltered by trees other than very low fences, and without higher ground on either side.

There certainly is a north hedge, but that position is unsuitable for other reasons. I therefore ask, is it necessary to erect some shelter for the hives against cold winds? If so, would a 4-ft. or 5-ft. fence of upright boards or wreathed thorns on the north side of the row (leaving just room to walk behind the hives) be a good plan? My straw hives have not straw caps or "hackles" to protect them, but only sacking-covers and milk-pan over all. —NORTH DORSET, *January* 1.

REPLY.—What is wanted in such a situation is shelter from high winds for the bees when returning home heavily laden in the spring-time. If the prevailing wind is from the north, a "wreathed thorn" fence 5-ft. high would be most serviceable for the purpose. Referring to the skeps, a milk-pan cover is far better than a straw hackle in an exposed situation.

[1409.] *Transferring Bees. "Wells" Dummy Shallow-frames for Extracting.* — 1. What would be the best month to put two strong skeps of bees on a "Wells" hive for working down into the latter? 2. Does a "Wells" perforated dummy require the same thickness all round as a standard frame, viz., $\frac{7}{8}$ in. wide? Would a perforated board $\frac{1}{2}$ in. thick fixed in centre of brood chamber answer as well? 3. Would perforated zinc do harm to bees; if so, what harm? 4. What are the advantages of shallow-frames for extracting? Would not standard frames answer better if wired?—E. G. PARSONS, *Stoke Golding.*

REPLY.—1. End of April if bees are so numerous as to fairly well fill the skeps. 2. The "Wells" perforated dummy is made $\frac{1}{8}$ thick, not $\frac{7}{8}$. 3. Zinc is harmful for use in hives during winter, because of probable oxydisation of the metal through moisture. 4. It would occupy too much space to detail what we consider the advantages of shallow-frames for storing surplus, but that they are advantageous is generally admitted.

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

"WHATFOR" (Watford).—1. *Ridding Hives of Ants, &c.*—The plan of inserting hive legs in water—for protection against ants, earwigs, and such like pests—has many disadvantages, and is generally discarded after trial. We should prefer tying a band of oakum or of "cotton-waste" round each leg, and occasionally saturating the band with coal tar or with paraffin. This will keep the intruders off during the season when they become troublesome. 2. *Barring Hive Entrance with Grating of Nails.*—It will never do to drive wire nails through floor-board from beneath at $\frac{1}{4}$ in. apart in order to keep out mice, snails, &c. The entrance must on no account be obstructed as proposed, and if entrance is made no more than $\frac{3}{8}$ in. high (as it should be), it is quite protection enough for the bees against the trouble feared. For guarding against "robbers," a pair of simple sliding doorways answers as well as anything we know of. 3. *Cane-Sugar for Bee-food.*—As analysis is out of the question, reliance must be placed on the guarantee of the seller.

F. W. ASTBURY (Wellington).—1. *Making Artificial Swarms.*—The proper method of making an artificial swarm under the circumstances named is to remove the queen and the one comb of brood on which she is found, into a new hive, having its frames fitted with full sheets of brood-foundation, and setting this new hive on the old stand. The old, or parent hive, is then removed to a new stand to raise a queen from eggs or brood left therein. Your proposed plan might succeed, but seeing it is less safe and satisfactory than the one given above, there is no reason for adopting it. 2. *Honey Plants.*—White clover, sainfoin, heather, fruit bloom of all kinds, and lime blossoms form the main sources from which honey is gathered. Then come the various trifoliums, mignonette, borage, white arabis, limnanthus douglasii, melilotus leucantha, Chapman honey plant, giant balsams, and many others of greater or less honey value.

THOS. PRITCHARD (Bucknell Station).—1. The section of heather honey reached here in good time, and was much appreciated by those for whom it was intended. It is genuine "hill heather" honey, and the quality we consider very good indeed. 2. Referring to the samples of sand-coating, we will have much pleasure in showing them on the occasion of the Annual Meeting of the B.B.K.A. 3. No special certificate follows the F.B. examination, but the star to name in future reports of the B.B.K.A. is a permanent endorsement of the certificate.

S. HARBORNE (Birmingham).—*Hive Making.*—Full particulars, with illustrations, for making the "W. B. C." hive, appeared in B.J. for February 1 and 8, 1894, and will be sent post-free for 2½d. in stamps.

W. LOVEDAY (Harlow).—*Wax Imports.*—We will endeavour to obtain the information desired, and, if successful, will publish it.

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION.

The monthly meeting of the Council was held on Friday, the 10th inst., at 105, Jermyn-street, W., at 4 o'clock. Present—T. W. Cowan (chairman), Major Fair, Messrs. R. T. Andrews, W. Broughton-Carr, Cecil Hooper, E. D. Till, and J. M. Hooker (ex-officio)). Mr. H. Jonas (vice-chairman) and H. W. Brice attended committee meetings at 17, King William-street, but were unable to be present at the Council meeting. Letters expressing regret for absence were received from the Revs. G. W. Bancks and W. E. Burkitt, Messrs. W. O'B. Glennie (treasurer), Jesse Garratt, W. H. Harris, J. H. New, and A. G. Pugh.

The minutes of last meeting were read and confirmed.

The special committee appointed to consider the applications received in response to the advertisement for a secretary to the Association in the room of the late Mr. Huckle, reported that there had been twenty-five candidates for the vacant post. Of these several were considered fully competent to fulfil the duties required of them, but after full consideration they unanimously decided to recommend Mr. Edwin H. Young for the appointment. After considering the various reasons for this preference, the recommendation of the committee was confirmed by the Council *nem. con.* The special committee were requested to arrange a meeting with the newly-appointed secretary in a few days and initiate him into the duties of the office.

The statement of accounts to December 31 was next read—including a recommendation of the finance committee as to several accounts—payment of which was agreed to.

The Chairman stated that the sub-committee appointed at the conference held on December 13—reported in B.J. of the 19th of that month—had met at the Euston Hotel, London, on the 8th inst., and, after several hours consideration and discussion, had framed certain suggestions with regard to the proposed foul-brood legislation.

On the following day the sub-committee waited upon Mr. T. H. Elliott, Permanent Secretary to the Board of Agriculture, at the offices, Whitehall, between whom and the sub-committee the matter was discussed at some length. As a result of the interview it was arranged that a meeting of the joint-committee be held in the "Council-room" at 12, Hanover-square, London, at two o'clock on Friday, January 31.

Letters were read (1) from the Durham College of Science, approving of the action of the B.B.K.A. with regard to foul brood; (2) from the hon. sec. Yorks B.K.A., explaining the position in reference to affiliation with the B.B.K.A., and the reasons for non-compliance with the required conditions; (3) from the East Riding (Yorks) B.K.A., hoping to become affiliated with the parent body; (4) from the University College, Wales, referring to examinations for women candidates for experts' certificates in bee-keeping; (5) from the "Bath and West" Agricultural Society, regarding the location for honey and bee-appliances in the show ground at St. Albans.

The correspondence also included communications from the Hants and Isle of Wight, and the Lancs. and Cheshire B.K. Associations, all of which were considered and duly dealt with.

The Chairman gave notice of motion for amending certain of the rules of the association bearing upon the status of officials of the Association to be brought before the annual meeting to be held in March next.

A unanimous vote of thanks was passed to Miss L. M. Carr, of the BEE JOURNAL office, for temporarily undertaking the duties of secretary at the request of the Council, and for the satisfactory manner in which the work had been done since the death of Mr. Huckle.

The Council then adjourned till Friday, February 14, at 4 p.m.

Mr. F. Tunbridge, Broomfield, Chelmsford, was elected a member of the Association.

DERBYSHIRE BEE-KEEPERS' ASSOCIATION.

The annual meeting of this Association was held on Friday, the 10th inst., at the Y.M.C.A., St. Peter's Churchyard, Derby, Alderman Barber, J.P., presiding. The hon. sec. (Mr. F. Walker) read the 15th annual report, which, after noting the past honey season, went on to say:—The Agricultural Society had again contributed £10 to the prize list at the annual show, and the thanks of the Association were due to them in consequence, as well as to the various tradespeople who had offered prizes. The Chairman, in moving the adoption of the report, referred to the resignation of the secretaryship by Mr. Atkins, who for so many years had worked hard in the interests of the society, but he was pleased to think that in Mr. Walker they had an admirable successor. The Chairman also announced that the County Council grant had this year been increased to £50, and he hoped that the lectures which were given under its auspices would prove a great stimulus to bee-keeping throughout the county. The motion was agreed to. The report of the sub-committee appointed to dispense the County Council grant was adopted, as was the detailed balance-sheet. The Duke of Devonshire was re-elected president. The vice-presidents were also re-elected, with the addition of Lord Burton, and

Messrs. Bemrose, M.P., Gretton, M.P., and Drage, M.P. Alderman Barber was again appointed chairman, it being announced that he was about to offer a five-guinea Challenge Cup to be competed for at the next annual show, whilst the hon. sec. stated that he should have pleasure in offering a stock of bees in hive. Dr. Copestake was re-appointed treasurer, and Mr. F. Walker hon. secretary, whilst the Management Committee was also elected.—*Communicated.*

IRISH BEE-KEEPERS' ASSOCIATION.

The Committee met on the 9th inst. Present—Captain Millner (in the chair), Mr. Read, Mr. O'Bryen, and Mr. Chenevix (hon. sec. 15, Morchampton-road, Dublin). A sub-Committee was appointed to draw up the annual report, which will be issued about the end of March.

It was resolved to draw the attention of members to the prizes offered by the Royal Dublin Society for honey at the Spring Show.

BRITISH BEE-KEEPERS' ASSOCIATION.

APPOINTMENT OF SECRETARY.

In announcing the appointment of a gentleman to succeed the late Mr. John Huckle as Secretary of the British Bee-keepers' Association, we cannot quite help sharing in the more or less of personal disappointment which will, no doubt, be felt at the result. This feeling on our part is but natural, in view of our exceptional opportunities of becoming personally acquainted with the merits of many of the candidates; and for the applicants themselves that some disappointment will arise goes without saying.

For the Council of the Association, however, it cannot be otherwise than gratifying to find so many capable and altogether excellent candidates placing the necessary time and services at their disposal. It is moreover obvious that the salary offered was not largely the inducement; and, so when gentlemen of education, culture, and high scientific attainments are included—among others well experienced as experts in bee-keeping and in association work—it becomes clear that the work was regarded by many as not only congenial but very much in the light of a labour of love.

Having said this much, we do not doubt that the decision of the Council will be accepted as a correct one, even by unsuccessful candidates themselves, bearing in mind the exceptional advantages claimed for Mr. Edwin H. Young. In order to properly appraise these advantages, it may be explained that Mr. Young has been for some years—and will still continue to be—assistant to his brother, Mr. Wm. C. Young, well known as the secretary of the British Dairy Farmers' Association, which, as our readers know, holds its annual show at the Agricultural Hall, London.

The "Dairy Farmers" are now located in the fine suite of offices, No. 12, Hanover-square, W., until recently occupied by the Royal Agricultural Society, the latter body having now moved into the adjoining building. No. 12, Hanover-square, then, will henceforth be the London address of the B.B.K.A., and the new secretary may, after commencing his duties, be seen there daily during office hours.

The many interests common to dairy-farmers and bee-keepers, so far as the work of their respective associations, will be obvious to all, while the experience gained by Mr. Young in exactly similar work to that now required of him, including the management of large exhibitions, should eminently fit him for a post in which organising powers are necessary. To say that the new secretary has been for over ten years a practical and successful bee-keeper, only adds one more to the many advantages which point to him as the right man in the right place. It is, therefore, we think, not too much to hope that the members of the B.B.K.A., and of county associations generally, in congratulating Mr. Young on his appointment will in the future have cause to congratulate the council of the Association in being enabled to fill the vacant office in a manner likely to give all-round satisfaction; which satisfaction, we may add on the part of those concerned, is rendered more complete by the fact of the appointment being so entirely "open" and the list of candidates secured entirely and solely from the advertisement which appeared in our pages.

HONEY IMPORTS.

The total value of honey imported into the United Kingdom during the month of December, 1895, was £3,098.—*From a return furnished to the* BRITISH BEE JOURNAL *by the Statistical Office, H.M. Customs.*

As showing the fluctuation in value of the honey imported into the United Kingdom during the past year, we append the monthly returns for 1895, furnished to us by H.M. Statistical office, as under :—

January	£522
February	930
March	2,975
April	2,729
May	3,263
June	9,926
July	5,550
August	5,159
September	3,578
October	1,780
November	1,762
December	3,098
Total for the year	£41,302

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*" *(see 1st page of advertisements).*

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

[2377.] The weather continues open and mild, quite in contrast to last January. The barometer has nearly touched 31 in. during the last few days, but the dull foggy weather has kept the bees quiet, and we have seen but few out since the 31st December, when the apiary was in a merry hum with thousands of bees on the wing. I removed covers of hives, spread out the wraps for an airing, and even transferred a few frames of food from the over-stocked to those getting short of stores, and so saved candy for the present.

I am always glad to read the encouraging reports of our bee-keeping friends, but we seldom find anything debited for time spent in producing these favourable results. Exceptions occur, of course, but generally speaking—and to most people—"time is money." Those who have spare time are, I suppose, entitled to represent their gross profits on the year's working of their apiaries, but those not so situated ought certainly to charge the value of the time to the debit account. Then the item wax is often credited at full market value; possibly the bulk of it may have been foundation made from the bee-keeper's own wax in previous years; if so, the weight of foundation used in making the combs ought to be deducted from the cake of wax. While on the subject of wax, I may add there are few of us who can ever hope to equal that "cake of wax" mentioned on p. 516 of B.J. for '95 by our friend Mr. Wells. I myself must own that either my method of extraction, or the wax-secreting proclivities of my bees, are sadly deficient, as I imagine that by melting up the combs in fifty of my hives, I should not get 85 lb. of wax from the whole! How Mr. Wells does it, and where the wax comes from, is a mystery to me. In saying this, however, I in nowise cast a doubt on Mr. Wells' figures.

A good device for outdoor feeding is given in the *Bee-keepers' Review* (American). One cask to hold the syrup, which is allowed to drip from a tap into an inclined shallow trough, and the bees feed from this trough. Then at the other end of trough is another cask into which any surplus syrup not cleared up by the bees may run; this receptacle being covered with wire-cloth to prevent bees getting drowned. The writer suggests that medicated syrup could be given to the bees by this method—in fact, to all the bees in the vicinity.

Some of our readers desire to prevent swarming, and are eager for any wrinkle that will help them in that line, while others are anxious to get early swarms. The first-named are evidently fully stocked with hives, while the latter desire increase. Now I well remember Mr. Simmins' articles advocating comb-building below—or with combination hives in front, of the brood-nest. I tried this plan at the time with some hives, but it did not succeed in my case, as about 75 per cent. of the hives on which the system was tried swarmed that season, consequently I have not troubled to give it a second trial. During the last two or three seasons I have not had more swarms than I required. Nor do I lose swarms from the fact of my home-apiary being under constant supervision the season through, and a watcher for swarms being employed at my out-apiary. I have no wish to entirely prevent swarming myself, though by judicious management swarming may be reduced to a minimum, as most practical bee-keepers know. Those who want early swarms should gain first an accurate knowledge of the bee-flora of their district. Some districts are provided with early forage, while places not far distant may be a week or a fortnight later; then the early swarm sent to the early district would do well, whereas the early swarm sent to a later district, so far as pasturage, would not make progress, and by the time the honey-flow came on many of the bees constituting the swarm would have died off or been lost in foraging, thus the depleted population would store honey less rapidly than if income had started immediately on their arrival. Therefore I consider it lost labour to feed stocks and incite the bees to early breeding, except for early districts.—W. WOODLEY, *Beedon, Newbury.*

TITHYMALE (LAT., *TITHYMALUS*).

[2378.] Your correspondent, the Rev. G. W. Bancks, in concluding his interesting letters on "Ye Olden Bee-keeper," asks, on page 17, for information as to "a green herb called Tithymal." This plant belongs to the extensive genus *Euphorbia* (the Euphorbium of Pliny), which appears to be indigenous to all parts of the world where plant life exists. Sir Joseph Hooker names ten English species. It is also mentioned by Bentham, Lindley, &c. The latter author, in 1845, enumerated 191 genera, and estimated the known species, described and undescribed, at 2,500, but these have been increased since then. Most of those

enumerated are tropical, but there are now some fifteen well-known English species, passing under various names, as "spurge," "devil's milk," &c., which grow wild on dry wastes and in hedge-rows. There are also several varieties under cultivation. Many of the tribe are poisonous, the special seat of the virus being contained in the milky exudation from the stems of the plant. *E. Hiberna*, long indigenous to our islands and formerly well known as a medicine, has apparently quite disappeared, giving place, no doubt, to newer varieties. Concerning the particular species in the mind of "Ye Olden Bee-keeper" it is impossible to say. The natives of Africa smeared their arrows with the juice of *Euphorbia heptagona*, *E. virosa*, and *E. cereiformis*, the Brazilian Indians using *E. cotinifolia* for the same purpose. So there can be no doubt as to the poisonous nature of some of the species.—H. W. BRICE, *Thornton Heath*.

In reply to the Rev. G. Bancks' query on page 17 in last issue, the plant called Tithymal in his curious old book is no doubt *Tithymalus*, now known as Euphorbia, a spurge or milk-wort. It is a small edition of the Euphorbia or *Caper*, the seeds of which are served with boiled mutton as "caper sauce."—F. V. HADLOW, *Buxted, Essex, January* 10.

A BEGINNER'S EXPERIENCES.

SUCCESSFUL BEE-KEEPING UNDER DIFFICULTIES.

[2379.] Trusting you will find room in your valuable and much-esteemed BEE JOURNAL for another response to your call for "Experiences by Young Beginners in the art of Bee-keeping," I send you the following:—The way I was led to adopt it as a hobby is this—Early in 1894 I read in a copy of *Answers* a paragraph entitled "Bees in queer places," and, thinking I should like to keep a hive of them, decided to get one and make a trial. I had previously been obliged to give up a very nice garden, and wanted something to fill up spare time. But the great difficulty was, where shall I put the hive when I get it? which I settled thus:—There being a spare back-room upstairs, I had the offer of the use of that "if I could keep the bees outside the window," which offer I accepted. By way of start I obtained a piece of angle-iron for a girder; this I fixed on the window-sill across the angle formed by the house and back addition thereto, into the wall of which I cut a hole and cemented the other end. I made and bolted on to this a board 3 ft. 6 in. square, on which I set the hive, facing south. So you see I have to manipulate from the open window, which is very awkward, especially when moving the bees into a clean hive. However, I soon got sufficiently used to them to dispense with gloves, and sometimes did without veil when operating. I waited until June, and then bought a swarm of bees with queen from Cambridge, and on their arrival my first difficulty was how to get them into the hive. I feared to throw them down in front out of doors, in case the neighbours got stung (the back yard being so very small) or the bees flew away. So I bored a hole in the swarm-box and connected it to the hive with a ¾-in. glass tube (which I now think was too small), and tried to drive them into the hive with smoke, expecting thus to save all bother and see the queen. But no, they would not budge, so I gave that up. My next dodge was to request all the ladies of the house to retire to rest, fix a sheet across the chimney, put the hive in position, and shoot the bees out of their travelling-box on to the kitchen table in front of it; then there was some fun! The bees had been fed with syrup, were very good-tempered, and the kitchen being nice and warm, they apparently did not care whether they entered the hive or not, so they just stayed out enjoying themselves. This was Saturday, about midnight, and it was 8 a.m. before I had the kitchen clear of bees. Soon after that I carried the hive upstairs to its place outside the window, where it has remained ever since. I did not take any honey from them in 1894, although I might have done, had I known what I do now. But in 1895, after coming nicely through the winter, they yielded me half a hundredweight of good honey—viz., thirty-three well-finished 1-lb. sections, and the rest extracted from brood-nest, which latter was completely choked up with it. After that I found the colony queenless, so had to buy and introduce a new queen, which I did successfully in September last. I had no trouble in selling my honey at 1s. per pound, and sections at 1s. each. I also exhibited some in the comb at our local Horticultural Show at Plaistow (not for competition, as I was the only exhibitor of anything of the kind), was awarded certificate and H.C. So this year, if time allows, I am hoping to make and show an observatory hive stocked with bees, in order to bring bee-keeping more to the front, as mine has created great interest in this neighbourhood. Thus ends history of hive No. 1 for the present.

During the autumn of 1895 I wanted to increase the number of my hives, but the same old difficulty of where to put them again cropped up. However, I got permission to have one or more, "if I could find room," at the house of an old friend, about three minutes' walk from where No. 1 hive is located. Here I had again to resort to make-shift tactics, as there was not a single foot of room on the ground for bee-hives. The result was my making another platform (10 by 4 ft.) over the slanting roof of kitchen, at 10 ft. above the ground, and a 12-ft. ladder to get up and down with. When completed, there was room on it for three hives, one of which (a nice strong stock) is already in position, and the

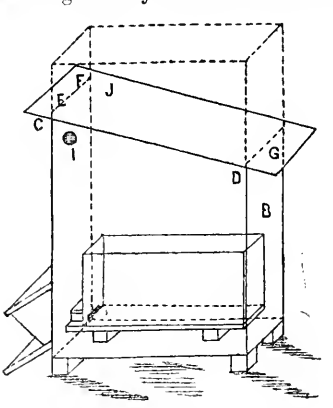
others will, I hope, soon follow. Being in the building trade, and able to use a few carpenters' tools, I make most of my hives and fittings myself. And so, not having read anything quite like this in the last two years, either in our B.J. or *Record*, I thought it might be interesting and encouraging to others—having bricks and mortar and London on all sides of them—to start bee-keeping.—W. C. STONARD, *Plaistow, January 9 (within five miles of the G.P.O.)*

A CHEAP HIVE,

AS MADE AND USED BY A WARWICKSHIRE BEE-KEEPER.

[2380.] The writer, after trying several kinds of hives, has come to the conclusion that for a good substantial hive, suitable for doubling and wintering, the following cannot be beaten, taking into consideration the small outlay :—

I first procure from my grocer a bacon-box (cost, one shilling). Standing it on end, I sweep out all salt ; then, after drawing nails, knock out the top and place it at the back B as in sketch, and nail in position. Draw lines from C to D on both sides the box, and saw off top pieces, which come in for firewood. Next take the lid—which B has taken the place of—and nail it together by means of two strips of



wood about three inches wide. This makes a very good roof, C D. Should you prefer the roof to project a little, insert an extra piece of wood of similar thickness about six inches wide before nailing together. To make this joint waterproof, take a sheet of brown paper, give it a coat of paint on each side, and while wet place it on, fastening it down with tacks, using small bits of cardboard or gun-wads to prevent the tacks from tearing the paper. When dry, give it another coat of paint, using plenty of oil, as the paper will absorb it all, but it will be as tough as leather.

Two roof-hinges are fixed at the top, E F, the roof being fastened down at G with a small hook. This completes a good sound outer-case at a cost of about 1s. 6d. For the hive body or brood-chamber I use 9 in. by $\frac{3}{4}$ in. board for back and front, and plane the same size timber down to $8\frac{5}{8}$ for the sides, so that the frame tops are flush with the front and back when placed in position ; cut out an entrance about 6 in. by $\frac{3}{8}$ in. and make a similar hole in the outer-casing at front to correspond. Next nail on the floor-board, leaving about $1\frac{1}{2}$ in. projection in front, which keeps it away from the outer-case, placing over the cavity a strip of wood on two small blocks so that the bees cannot gain access to the space between hive and outer-case. Set the whole on four bricks and rear a piece of timber against the front for an alighting board ; or it may be nailed in a slanting position and a porch added if preferred. Bore two holes at I J about 1 in. in diameter and nail perforated zinc over ventilators, place the hive-body on two strips of wood opposite the outer entrance, and nail in position. There will be about 3 in. to spare on either side, which may be filled in with cork dust, and then we have a perfect frame-hive suitable for any purpose whatever at an outlay of about 2s. 6d. or 3s.

I can strongly recommend the above, as I have similar hives in use at the present time. Three bacon-boxes will supply timber to make two hives throughout similar to above, but I prefer to use new timber for the hive bodies.—F. A. GOODALL, HM.P.I.A., *Tame Valley, Tamworth.*

NOTANDA ET INQUIRENDA.

DRIVING BEES.

[2381.] Once more I return to the charge. *Driving.*—I have been much interested in Mr. E. Parsons' amusing letter [2372, p. 16], for the simple but sufficient reason that *his* experience exactly reproduces *my own*. I, too, was so taken aback by the first furious and utterly unexpected onset made upon me by the bees when driving, that I dropped my skep, overturned the pail, and smashed up several of the combs. Needless to say, every one present precipitately made themselves scarce in less time than it takes to write it. When matters had calmed down a little, one's armour had been strengthened, and *two* smokers had been got ready, I ventured back ; but then, as since, I found the *first* outbreak the worst, and had little trouble afterwards. It has always been when turning the skep over. Once the upper receiver fixed, and the beating began, not a bee would take wing. I have never, however, stopped up the entrance, having had no trouble beforehand. Latterly, I have used the carbolic cloths, very much as "A Worker" (2347, p. 522) describes ; but just on those very occasions there was no need for them.

Mr. E. Parsons begs the whole question, however, in one respect, when he says, "If bees are a bit vicious, they should have given them a good dose of smoke, and five minutes to consider it." But my difficulty all along has been that it is impossible to tell how the bees are going to behave until you turn over

the skep; and no amount of smoke will quell their vicious attack then, until the flying bees have exhausted their energy or ill-temper. It has been the glorious uncertainty as to what was about to happen at the moment when turning over the skep that I have found so trying. Whether not a bee would stir, or in an instant I should be covered with a cloud of infuriated and persistent enemies, trying every joint in my harness, sometimes finding a weak place, and then letting me know it with melancholy results better imagined than described.

Since reading Mr. Brice's most interesting article, I have carefully examined some stray specimens, and believe my bees, or some of them, to be pure black. Perhaps this may account for some of their erratic peculiarities. —SELF TAUGHT, *January* 13, 1896.

DRIVING BEES.

A BEGINNER'S EXPERIENCE.

[2382.] Having read with great interest the reports of fellow bee-men and the invitation from our worthy Editors, I have much pleasure in sending you my first year's experience in this most interesting craft. I started the year with three stocks, two skeps and one in frame-hive, but during the heavy gales of March, 1895, the latter was blown over, and when examined afterwards the combs were found broken away and the queen killed, so I lost that stock. However, I bought four more skeps as a bargain for 10s. 6d. This gave me six strong stocks, all in skeps, two of which sent out one swarm each. I put the swarms into new frame-hives, and, being fine weather, I let them take their chance without any feeding. The first swarm gave me seventeen finished sections and four frames of honey, which I gave to driven lots of bees in the autumn. Some of the sections I showed at our local show, and took second prize for them (quite satisfying my first attempt). From the other swarm I got five frames of honey, which were also given to driven lots. Wishing to have more of my stocks in frame-hives, I resolved to drive several of my skeps; the first one gave me no trouble at all, but the bees of the second were of a different mind as regards parting with their hard-earned store of honey, and they "sat on me" with a vengeance! But I stuck to my job, although literally covered with bees, and I got twenty or thirty stings. But a little carbolic acid applied to each sting soon stopped the pain and swelling. I have driven over forty stocks since, but have only met with two vicious lots out of the whole.

I first saw bees driven several years ago at the Bath and West Show at Gloucester, and with this insight, and reading and following your acceptable journal, I got on well with driving. Being a bootmaker, I have spare time at night, and, being a handy man, I make all my own hives. I have just made an eight-frame observatory hive, with the frames arranged in pairs, two combs hanging side by side. I am told that bees will only work between the frames, and not on the outsides, because of the glass. Of course, the sides of the hive close with folding doors, which will make it perfectly dark. Do you think this is the case? If so, should I take the hive apart, and reduce the width to one frame?—A. COLLETT, *Wethercote, Gloucester, January* 11.

[An observatory hive, in the general acceptance of the term, is intended only for use at shows; and for this purpose all combs must be visible on both sides. If this should not be what is wanted please write us again.—EDS.]

GRUMBLES.

[2383.] I am sorry to occupy the position of being the only grumbler among your numerous correspondents, who all seemed so pleased and give the B.J. and its Editors no end of praise and flattery, but I am really afraid of your getting puffed up and conceited as the outcome of the complimentary letters you are daily receiving. You talk of every subscriber endeavouring to get another and thus increase readers 100 per cent. No doubt that would be a very good thing, but don't you think the way to reach that very desirable end would be by making the B.B. JOURNAL a little more interesting and instructive? Just take a look through the last five or six issues, and see how much instructive matter they contain! A great portion of them have been taken up with Foul Brood; beginners' experiences; mishaps, and things which are entirely devoid of interest to at least three-fourths of your intelligent readers. The contributions of Messrs. Woodley, Brice, and one or two others are certainly interesting, but these are the only things worth reading. One cannot conscientiously recommend one's friends to become subscribers, especially if they be cottagers, as I question very much if it is really worth the price. Now, as flowers and fruit are very closely connected with bee-keeping, and every cottager is enthusiastic on these subjects, could a page or two not be devoted to them every week, or once a month? Then another page might be devoted to "The Household." Recipes might be given as to the use of honey and wax. There are a hundred different ways in which honey may be made use of in the shape of beverages, cakes, confections, medicines, &c. Wax is also an exceedingly useful thing in a household.

Why do we never see these things mentioned in the JOURNAL? I am sure if these things were looked to the readers would be increased amazingly. When I am in the way of grumbling I may also have a dig at the manufacturers. Why will they not make the sheets of super foundation the right size? When cutting them up to full size section

sheets there is always a trimming wasted. And really I don't understand why bottles are so dear! I am sure it would pay a manufacturer to make good screw-cap bottles at 12s. per gross as he would have such a sale of them.

Now, Messrs. Editors, I do not make these remarks with the view of disparaging the JOURNAL—quite the contrary; but I have been comparing notes with some of my bee-keeping friends who declare they are thinking of stopping it, which intelligence has made me sad. Being an ardent bee-keeper myself I should like to see the industry becoming more popular and would also like to see the JOURNAL become so interesting that it would be indispensable to all the rural inhabitants of these islands.—AN AYRSHIRE BEE-KEEPER.

[Having, with due meekness, we hope, printed the above without ourselves emitting so much as a single "grumble,"—as becomes those properly thankful to any candid friend who, in the goodness of his heart, strives to prevent them from "getting too puffed up and conceited"—we will endeavour to find out where and how we can mend our ways in the desired direction. But—if without any conceit we may claim a "but"—we ask, does it never occur to our friend that it is just possible that some might object to such (to our friend), desirable subjects as "flowers and fruit" being included in their contents of the BEE JOURNAL—to say nothing of the pages he desires to see every week "devoted to The Household," and directions for the making of "beverages, cakes, confection, and medicines"? Again—if permitted to put another question—we might ask, what is there to hinder our Ayrshire friend from ventilating his grievances against foundation makers, and screw-cap bottle dealers, too, in our pages if he chooses to do so? Surely we cannot be supposed to anticipate any reader's special grievances, and write leading articles to secure him a remedy, if we don't know in what the grievance consists!

We rather fear that any endeavour on our part to do away with our correspondent's "grumbles," would only illustrate the fable of the man and the ass. But, apart from this, we have as desired "taken a look through the last few issues" to "see how much instructive matter they contain?" and have arrived at the conclusion that if each of the several issues does not contain a pennyworth of such instructive matter as most bee-keepers expect from it, we may be sorry, but, even at the risk of losing the several pennies at stake, and of making our Ayrshire friend feel "sad," we must decline to "go further and (perhaps) fare worse."—EDS.]

BEE NOTES FROM SUSSEX.

[2384.] The very next day after the date of my last communication (2362, page 7, December 28, 1895), temperature rose, the sun at last reappeared, and for two or three days the bees had a rare time of it. Caution was necessary in walking near the hives—not that they showed the least propensity to sting, but because they were darting about in such numbers, and in so frolicsome a humour that in sheer exuberance of spirits they cannoned recklessly against the passer-by.

With the new year, the weather changed back again, and I doubt whether the bees have flown on any day in 1896 as yet. Until yesterday temperature has been low, with a chill east wind, overclouded skies, and a very raw general effect. The writer is enjoying (as best he may) a severe chest cold. What the bees may be experiencing is a matter of conjecture, as they have retired out of sight, probably nursing patches of brood at lower ends of combs.

The feature of the unusually dull weather has undoubtedly been the extraordinarily high readings of the thermometer. My "Admiral Fitzroy" is marked up to 31 deg. only, and I really thought the mercury was going to the top of the tube! On January 9 it registered full 30·8, and we are not 20 ft. above sea level—if that. It is the highest reading I have noticed. — W. R. N., *Sussex, January* 13, 1896.

BEE-KEEPING IN IRELAND.

[2385.] With reference to the letter of "M. K." (2370, p. 15), I wish first to state that we gave lectures in our bee-tent at Kilkenny so recently as 1892, in connection with the Dog Show. I do not, however, wish to attribute too much importance to this fact, and I quite agree with "M. K." in wishing that the bee-keepers of co. Kilkenny would avail themselves more largely of the advantages offered by our association. Perhaps some public-spirited bee-keeper would work with us as district hon. secretary for the county, or part of it?—HENRY CHENEVIX, Hon. Sec. Irish B.K.A., 15, *Morehampton-road, Dublin, January* 11.

PREVENTION OF SWARMING.

[2386.] In remarking upon this subject in your issue of December 26, "A Worker" (No. 2347), appears to have stumbled into several errors. He speaks of my lower chamber not being added until the second super is placed in position. This, however, has not been my own practice, and has been simply an alternative and temporary measure. I have sometimes offered those who thought they could not get the bees to work in the supers while the empty chamber was previously in position. This point should be quite clear, if he will only be good enough to refer to page 506, second paragraph. As a matter of fact there is no difficulty, judging by the mass of evidence before me, in getting work done above the stock, while unlimited space exists immediately and permanently below.

Our friend from Long Eaton does not appear to understand the difference between a nadir and an eke, or the manner of their application, for, while really showing the uses of an "eke," as seen by his reference to the extension of the breeding combs, he repeatedly applies the word "nadir." These terms are almost as obsolete as the processes to which they once respectively applied, and we do not now call the lower chamber of any tier of any style of modern hives either an eke or a nadir. An eke was generally a rim or lower part cut from a skep, and placed under a stock in a similar hive, thus raising it several inches and allowing the original brood combs to be fully extended to the floor (or the usual bee-space therefrom), and in that condition of completion they remained until the stock was finally broken up—it might be for months or years. This gave a larger brood-nest, a more populous, but still crowded hive, and more room for storage in the upper portion of the combs. No attempt, however, was made at prevention of swarming, as the process was in no way adapted to that perpose.

A "nadir" is something quite different to the "eke." As already seen, the latter addition to skeps accommodated brood only, while the nadir was a distinct compartment placed under the original stock, and separated from it by a perforated board, so that the brood-combs could not be further extended. And now it should be particularly noted that in such nadir the bees were expected to build nothing but new and solid combs of honey, while no supering was carried on above the stock-combs. I am not aware that this process of nadiring was ever claimed as a prevention of swarming. The author of "£70 a Year from my Bees," the only writer of any note in connection with this subject, claimed that his success was attained, first, by his special treatment in hiving swarms, and, secondly, by the said plan of using a "nadir" for the *storage* of new honey-combs.

In 1878, I exhibited a bar-frame hive at the South Kensington Show, and for which I was awarded a special prize. A sectional surplus chamber was arranged under the stock hive, with a slotted adapting-board between; but I did not claim that this arrangement had any connection with the question of preventing swarming. One of my present adaptations provide for starting sections in a crate arranged under the stock, and without waiting for completion, as with the original nadir, they are raised above, being replaced by another set, afterwards to be treated in the same manner. This is an improvement upon the Kensington hive; but neither do I claim that this arrangement is so satisfactory as that which provides the empty chamber shall *always remain* under the stock, with no adapter between, and wherein little or no comb need be allowed, while wax-working goes on satisfactory in the sections above.

I was under the impression I had already clearly explained the utility of my non-swarming chamber; that it placed the bees in the position of having an immense brood-chamber which is never filled; that it assists ventilation; and gives the equivalent of shade, one of the most essential items for ensuring constant work. I am, too, so satisfied as to the advantages of a large entrance that, instead of only 1½ in. deep, I shall make them quite 2 in. deep in future.

If it may avoid further misunderstanding, at the risk of repetition, allow me to say that the non-swarming chamber is not to be filled up with combs of brood, as in the ancient eke, and wherein the original combs were extended in unbroken formation; neither is it to be made the receptacle for new and solid combs of honey, the legitimate use of the nadir.

Our friend, it will be observed, suggests that "comb-building is the real value of a nadir." I have already shown the use of a nadir, and he will see we are thoroughly agreed as to that expression, though certainly not as to his own meaning—that the nadir is one and the same thing as my non-swarming chamber. The two are entirely distinct, and until my system was published no attempt had been made to keep the same, or any empty chamber always in that condition, under the stock hive.

After showing the value of comb-building, almost in the same breath, our Long Eaton friend tells us the modern apiarist tries by foundation and extracting to save all comb-building he can. I regret that this contradiction of himself is equalled by his strange distortion of plain statements. In fact, had he been thoroughly conversant with his subject, he would not have filled my non-swarming chamber with combed frames, nor considered it a place wherein the bees are to build what comb they like.

Notwithstanding his attempt to show that comb-building is undesirable, he will not be supported by the majority of bee-masters, who know that rapid wax-working in the supers is the best evidence of prosperity, and of a profitable incoming of honey. By the way, we are agreed as to the value of foundation, but is he sure that comb-building, in respect of actual labour, is lessened by its use? Does it not rather save time solely because thousands can work on a given base instead of tens in establishing a foundation? As a matter of fact, a great deal more labour is expended in working a comb from a hardened base than in creating an entirely new comb from virgin wax; while more material is, of course, consumed in establishing semi-artificial combs. Consequently, by using foundation we save neither material nor labour, but gain time and better-shaped combs.

"A Worker" may rest assured, and may readily prove to his own entire satisfaction, that it is neither comb-building nor vacant cells to store honey in that will *alone* prevent swarming. Had these conditions established the great

desideratum, we should not have heard of so many vain attempts in the past to prevent bees leaving the hive while the combs in the supers were in full progress. He will find the reason of swarming rather in the natural desire being encouraged, first and foremost, by the completion and crowding of the brood-nest; while the secondary conditions are want of judicious ventilation, old queens, irregular combs, a superfluity of drones, and last, but not least, the use of queen excluders.

The system of prevention, inaugurated by myself, has stood the test of ten years' trial, and appears to have come to stay, its simplicity, when understandingly applied, being its greatest recommendation. Criticism based on incomplete evidence and defective observation is seldom helpful or profitable, but, nevertheless, I thank my Long Eaton critic for giving me this opportunity of referring to some of the many misconceptions that have existed in relation to this system. — S. SIMMINS.

P.S. — Since writing the above I have noticed the remarks of "Bee Cycle" in your issue of January 2 (No. 2357). The experience of that writer is so contrary to my own and the opinions of many independent witnesses (as based on practical demonstration of the facts I have presented) that I can only imagine the hive entrances were too small, and the experiments perhaps conducted with what to myself is an abomination—queen excluder zinc. With a large entrance, and honey in the fields, I know of nothing but the above-mentioned impediments that will keep the bees from working above in preference to below the stock, providing full sheets of foundation are used in the sections.

The question of heat and cold as applied by ventilation at one part and warmth at another, for inducing the bees to build comb where wanted, is not merely a theory, but an accepted fact though my nameless critic may not have arrived at that conclusion himself. I am quite willing to admit that bees, if crowded out, will build almost anywhere, but if a bee-owner cannot direct, or does not employ such available forces as will assist him in directing the energies of his bees into the right channel, is he worthy of the name of bee-master? I should say not.—S. S.

THE HUMBLE DUMBLEDORE.

[2387.] Let me say a word on behalf of the poor and despised humble-bee. Poor through no fault of his own, for never did a hive-bee work so hard; and despised he must be, for who ever found his home and did not try to destroy it? Of the different species—near a hundred—and their life history I will tell you something at a future time. Their very names bring back to mind the lovely English country where I have sought them—the great forests and high hills, the southern downs and rich Gloucestershire meadows. I love them so well that I could even tell the species by their song, as you may the birds by their song, or the butterflies by their flight, or the flowers by their scent. To bring them back to memory dear, in these dull wintry days, all bee-keepers should read the books of Richard Jefferies, such as "The Open Air," "Field and Hedgerow," "The Life of the Fields." From the matchless "Pageant of Summer," in the last-named book, I give the following extract: —"Each kind is repeated a hundred times, the foxtails are succeeded by foxtails, the narrow blades by narrow blades, but never became monotonous; sorrel stands by sorrel, and daisy flowers by daisy. This bed of veronica at the foot of the ancient apple has a whole handful of flowers, and yet they do not weary the eye. Oak follows oak and elm ranks with elm, but the woodlands are pleasant; however many times reduplicated, their beauty only increases. So, too, the summer days; the sun rises on the same grasses and green hedges, there is the same blue sky, but did we ever have enough of them? No, not in a hundred years! There seems always a depth somewhere unexplored, a thicket that has not been seen through, a corner full of ferns, a quaint old hollow tree which may give us something. Bees go by me as I stand under the apple, but they pass on, for the most part bound on a long journey across to the clover fields or up to the thyme lands; only a few go down into the mowing-grass. The hive bees are the most impatient of insects; they cannot bear to entangle their wings beating against grasses or boughs. Not one will enter a hedge. They like an open and level surface, places cropped by sheep, the sward by the roadside, fields of clover where the flower is not deep under grass."

It is the patient humble-bee that goes down into the forest of the mowing-grass. If entangled, the humble-bee climbs up a sorrel stem and takes wing, without any sign of annoyance. His broad back with tawny bar buoyantly glides over the golden buttercups. He hums to himself as he goes, so happy is he. He knows no skep; no cunning work in glass receives his labour; no artificial saccharine aids him when the beams of the sun are cold; there is no step to his house that he may alight in comfort. The way is not made clear for him that he may start straight for the flowers, nor are any sown for him. He has no shelter if the storm descends suddenly; he has no dome of twisted straw, well thatched and tiled, to retreat to. The butcher-bird, with a beak like a crooked iron nail, drives him to the ground, and leaves him pierced upon a thorn; but no hail of shot revenges his tortures. The grass stiffens at nightfall (in autumn), and he must creep where he may, if possibly he may escape the frost. No one cares for the humble-bee. But down to the flowering nettle in the mossy-sided ditch, up into the tall elm, winding in and out and round the branched buttercups,

along the banks of the brook, far inside the deepest wood, away he wanders, and despises nothing. His nest is under the rough grasses and the mosses of the mound, a mere tunnel beneath the fibres and matted surface. The hawthorn overhangs it, the fern grows by, red mice rustle past.—LORDSWOOD.

KENT BEE-KEEPERS' ASSOCIATION.

On Thursday, January 16, the K.B.K.A. hold their annual meeting at 115, Jermyn-street, at 4 p.m. It is hoped that members will attend in good numbers this Thursday evening, and that among them some will be found to volunteer for the office of honorary secretary, rendered vacant by the resignation of Mr. Garratt.

SURREY BEE-KEEPERS' ASSOCIATION.

The first annual general meeting of the members of the association will be held in the County Hall, Kingston-on-Thames (Kingston or Surbiton Stations) on Saturday, February 15, at 4 p.m. The presence of Surrey bee-keepers is particularly requested.

WEATHER REPORT.

WESTBOURNE, Sussex, DECEMBER, 1895.

Rainfall, 3·20 in.	Brightest Day, 13th, 7 hours.
Heaviest fall, ·72 on 16th.	Sunless Days, 18.
Rain fell on 20 days.	Below Average, 7·8 hours.
Above average, 0·72.	Mn. Maximum, 42·2°.
Maximum Temperature, 52° on 5th.	Mn. Minimum, 33·4°.
Minimum Temperature, 26° on 11th.	Mean Temperature, 37·8°.
Minimum on Grass, 23° on 8th.	Maximum Barometer, 30·29° on 28th.
Frosty Nights, 17.	Minimum Barometer, 28·93° on 16th.
Sunshine, 51·4 hours.	

L. B. BIRKETT.

WEATHER REPORT

FOR THE YEAR 1895.

WESTBOURNE, SUSSEX.

Rainfall, 29·34 in.	Brightest Day, June 20, 14·5 hours.
Heaviest fall, 1·39 in. on July 18.	Sunless Days, 58.
Rain fell on 163 days.	Above average, 157·4 hours.
Below average, 0·25 in.	Mean Temperature, 46·7°.
Max. Temperature, 76° on June 24.	Below average, 0·9°.
Min. Temperature, 13° on February 7.	Maximum Barometer, 30·61° on May 2
Minimum on grass, 5° on February 7.	Minimum Barometer, 28·63° on Jan. 14.
Frosty nights, 94.	
Sunshine, 1982·7 hrs.	

L. B. BIRKETT.

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

C. MARKS (Kingsbridge).—*Honey Ripeners.*—1. These are only required when the surplus honey taken is of such thin consistency as to make it certain that it would ferment, and become unfit for table use. The actual ripening consists in keeping the honey in a warm room for some time, when the denser or thicker portion falls to the bottom of the ripener, and is then drawn off. The thin, or unripe, honey is generally used in syrup-making for bee-food. 2. In reply to query, "When is honey *ripe?*" the best simple definition we can offer is that honey to be "ripe" must be of a good, thick consistency. On the other hand, unripe honey is always thin. 3. Honey should not be removed from the hive or extracted while unripe.

E. W. KILLICK (Rosherville).—The comb sent being old and all crushed up, we can find no trace of foul brood in it. In view, however, of the risk, we should disinfect the hives before using. We regret the above letter got mislaid, hence delay.

C. BARKER (Winton). — *Candy Making.*—Moist sugar is unsuitable for making bee-candy cakes, and is very likely to have caused the symptoms of dysentery you complain of. Refined cane sugar crystals is what should be used.

FRANK DODWORTH.—1. The secretary of the D.B.K.A. is Mr. F. Walker, Cattle Market, Derby. 2. The book will be advertised when ready, and no time is now being lost with it.

JOINER D. O. (Deddington).—1. Yes. 2. Observatory hives are not needed except for show purposes. 3. The "W.B.C." hive is fitted with standard frames, but there is no such thing as a "standard hive."

JENNY BREWSTER.—Many thanks for reply to Mr. Bancks *re* Tithymal. It will be seen that the query is answered on p. 23.

TYRO (North Devon).—*Lecture on Bee-keeping.*—Mr. Desborough's lecture on bee-keeping written some years ago, may be had from this office for 2½d. in stamps.

MAUD (Ewell).—*Adding Swarms to Weak Stocks.*—Before adding swarms as proposed, it should be ascertained if the weak stock is *healthy.* If not, it is useless uniting a swarm to it. Hives should always be cleaned well before using.

Editorial, Notices, &c.

USEFUL HINTS.

"Royal" Show at Leicester.—The receipt of an advance copy of the prize schedule of the "Royal" Show enables us to offer a hint to readers—who still hold good honey of '95 in stock—as to the advisability of reserving a sufficient quantity of their best samples for staging in competition at the earlier shows for 1896. Judging from the tardy advances thus far made by that keen enemy of active bee-work in spring, king frost, we must be prepared for a lengthened stay when he *does* favour us. This, of course, means a loss of early honey, and a consequent bareness of the show-tables in June. It becomes, therefore, worth bearing in mind that classes are provided for honey gathered in any year prior to 1896, both in the comb and extracted; the latter having also separate classes for liquid and granulated samples. These advantages make us hope that a goodly show will be made at the "Royal" at Leicester and the "Bath and West" at St. Albans, both of which exhibitions take place in June next. We have reason to suppose that there is some specially good honey of last season's gathering somewhere, and in the interests of all it should be seen at one or both the above important shows.

Foul Brood and its Treatment.—We have also received a copy of the quarterly "Journal of the Royal Agricultural Society," which contains an important paper upon The Nature and Treatment of Foul Brood, written at the request of the editor of the Society's journal by Mr. T. W. Cowan, senior editor of the B.B.J. We hope ere long to be enabled to reprint this paper in these columns, and thus put readers in possession of some valuable and indisputable facts connected with the subject.

Honey Imports for 1895.—The table on page 22 of our last issue, giving the total value of the honey imported into the United Kingdom during the twelve months ending December 31, affords food for reflection to the British bee-keeper from whatever side of the subject it is considered. In the first place the total value is less by more than twenty thousand pounds sterling, than the notably large imports of 1892. Still £41,302 (the sum reached last year), is an increase on the imports of '93 and '94—the amounts in those years being £29,087 and £33,507 respectively—and large enough to show that there exists a demand for the product when the supply is reliable and continuous. The point for British bee-keepers to consider is how far they can make the supply of home-grown honey reliable and continuous. We are very pleased to note that the value of organization is being made so prominent a question just now in this country in connexion with the agricultural interest; and there is no reason why the principle should not be extended to its, no doubt, small sister industry of apiculture. As a matter of fact our bee-keeping friends in America have already made a move in this direction, the further development of which we shall watch with attention and much interest, and duly report upon. In these days of keen competition, every pursuit wherein more or less large numbers of the community are engaged, will sooner or later be forced to co-operate or organize, in order to secure the full benefits of all that united effort can confer. None can afford to work single-handed nowadays; it therefore becomes important that bee-keepers in this country should bear in mind—when considering the question of how to extend the sale of their produce—how absolutely necessary it is to devote some effort towards making the supply of British honey "reliable and continuous." We would also add, "let it be as moderate in price as is compatible with paying profit, so that the retailer may not have it to say with such frequent truth as is now the case, "I must go to the foreign market or be minus my supply."

County Councils and Bee-keeping.—It is very encouraging to note an extension of Technical Instruction so far as bee-keeping in Yorkshire; and we invite the attention of readers dwelling in the North Riding to the advertisement in our present issue referring to the pioneer lectures proposed to be given throughout the Riding during February and March next. Local secretaries of bee-associations should at once take the matter up in order to show that the efforts of the Technical Instruction Committee are ap-

preciated by the persons for whose advantage the lectures will be given. For particulars see advertisement.

BOARD OF AGRICULTURE LEAFLETS.—It is known that the Board of Agriculture have intimated their willingness to have printed for free distribution a leaflet on the subject of "Foul Brood Among Bees," so soon as a suitable pamphlet has been prepared by the Council of the British Bee-Keepers' Association, and approved by the Board. We only mention this matter now in order to revert to an announcement in *Gleanings* for January 1, to the effect that the American State Board of Agriculture are about preparing a book on bee-keeping of 120 pages for free distribution! One wonders what our Board of Agriculture would say if a book of such dimensions had been asked for?

DEATH OF MR. F. H. MEGGY.

We learn with deep regret of the sudden death of Mr. F. H. Meggy, for many years hon. sec. of the Essex Bee-keepers' Association, and representative of that county on the Council of the B.B.K.A. Mr. Meggy, who was senior proprietor of the *Essex County Chronicle*, had not suffered from any particular illness previous to his death, which occurred quite suddenly at the Chelmsford Club on the evening of Thursday, the 10th inst. The cause of death was heart disease.

Referring to the sad event, the county paper says:—The news of Mr. Meggy's death caused considerable sensation in Chelmsford, and much sympathy is felt for his family—two sons and two daughters. The eldest son, Mr. Douglas Meggy, is at Oxford, preparing to take Holy Orders. The deceased, who was 53 or 54 years of age, was the second son of the late Mr. George Meggy, who preceded him in the proprietorship of the *Chronicle*, and he has been long and honourably connected with the Essex Press, while personally he was well known and much liked. He took an interest in, and was prominently associated with, several public institutions and movements. He was a prominent Freemason, the honorary secretary of the Essex Beekeepers' Association, a member of the Institute of Journalists, and the Chelmsford Sette of Odde Volumes, and in all these and various other literary, scientific, and artistic subjects he ever exhibited a lively interest.

Bee-keepers mainly knew Mr. Meggy as the active—and it may be said the moving—spirit of the Essex B.K.A., which will feel his loss very much. His interest in the Association never flagged, and his position in the county enabled him to secure for it an amount of influential support which few could hope to obtain.

We feel that bee-keepers generally will join us in offering our sincere sympathy with the deceased gentleman's family in their sudden bereavement.

ABOUT OUR BEES.

BY HENRY W. BRICE.

(*Continued from page* 15).

V.

BEE PRODUCT.

Honey.—This is the primary product of our hives, and is collected by the bees from the nectaries of various flowers and blossoms. In its crude liquid-form honey is called nectar, and in this state is thin, watery, and of a somewhat insipid flavour. In the operation of gathering this liquid it is temporarily swallowed by the bee, being passed by means of its proboscis into a receptacle known as the honey sac, or first stomach. Here an important change takes place in its constituent parts, the water which forms so large a portion of the raw material being to a great extent automatically separated during the time the bee is on the wing, or preparatory to its being stored in the comb; where it is again further manipulated by the workers, ripened, acidified, and finally capped over in the cells as the perfected article.

Honey is fairly constant in its ultimate composition, and consists of two kinds of elaborated—what, for want of a better term, we call—sugars, known by distinguishing names of dextrose and levulose, with water in a varying degree; the said variation being due to existing conditions of the flora, temperature, and district. Minute quantities of formic acid and other by-products are also added by the bees, including a small quantity of pollen, &c.

The amount of nectar secreted by flowers varies considerably, and is also largely dependent upon climatic changes and atmospheric conditions. Much depends, too, upon the nature of the soil, direction of the wind, &c. Indeed, I know of no product in the agricultural world upon which so many things have a bearing for good or bad as the secretion of nectar by flowers. But very few of these things enter into the ordinary bee-man's calculations, though they have much to do with the variation in district results, when taking an average of results for concurrent seasons.

Elaborate calculations have been made to show how many visits a bee makes in collecting a given quantity of honey; but in these calculations it is never taken into account whether or not the bee brings in the same quantity at every journey. A cloud across

the sun will bring home thousands of half-loaded bees. Again, an extra load of pollen will no doubt have something to do with the matter, for a bee will only carry a certain weight, whether inside or out. Besides, I doubt if all bees have the same carrying capacity.

The essentials of a first-class honey may be stated as follows:—Flavour, aroma, density, and colour. A honey good in these four points will hold its own anywhere. Clearness or brilliancy (except for exhibition purposes) are minor points, in most cases due to the manner in which it is extracted and put up. Quality of grain or granulation is often beyond the bee-keeper's control, but much may be done to improve this by careful and thoughtful handling. Honey (known from time immemorial) was used up to the fifteenth century instead of sugar, large quantities being used for the manufacture of mead and metheglin long before beer was known in this country.

Bees-wax.—As bee-keepers know, this is a solid, fatty substance secreted by the bees and exuded by special glands which find a vent between the ventral plates on the underside of the abdomen of the bee through receptacles known as wax-pockets. These pockets may be seen on pressing the abdomen so as to cause its extension. The laminæ of wax being plainly observable between the several segments. A merely vegetable product analagous to bees-wax in nearly every respect is, however, found existing in many plants, such as the *Myrica cerifera augustifolia*, or wax tree of Louisiana, and the *Myrica cerifera latifolia*—the fruit or berries of the above are bruised and boiled in water, when the wax separates and becomes hard on cooling. Wax is also obtained from the leaves and stems of *Ceroxylon* by the same process. The glossy-varnish on the leaves of many other plants, and trees is of a similar nature. Wax thus produced has no doubt the same composition chemically as bees-wax.

The specific gravity of bees-wax is about 96°, the melting point being from 146 to 150° Fahr. It is insoluble in water, but at high temperatures is converted into vapour. It combines readily with other vegetable and animal fats and oils when heated. It was considered by the ancients that bees collected wax, but Thorley in 1744 seems to be the first apiarist who noticed the laminæ of wax on the ventral plates of the honey bee, and Wildman, Huber, Hunter, and others in 1792 were aware of the same fact, and that wax was formed from honey. The wax-secreting glands were not known until quite recently, when Holtz described them in 1878. Latreille and Blanchard also pointed out that the transparent surfaces immediately covering these glands were made up of outer and inner layers (the epidermis and hypodermis) between which the secretion is passed by infiltration.

Wax is secreted by the bees entirely within the hive, and at a temperature of not less than 86 deg. Fahr., which heat is produced by the close clustering of the bees. The late Dr. de Planta found that a considerable quantity of saliva entered into the composition of bees-wax, and this forms one difference between it and the vegetable wax before mentioned. Hehner, in "The Chemistry of the Hive," points out another difference between bees-wax and other fats; the former containing no glycerine. He also says:—"If wax be boiled in alcohol, cerotic acid dissolves out, while the residue myricine remains." In rendering wax in water containing lime or other chemical bases this cerotic acid combines therewith, and forms a secondary product seen under a cake of wax on cooling. It is dirty grey in colour, of a spongy nature, and having to be scraped or cut away, entails a clear loss of so much wax, whilst at the same time lowering the quality of the sample. Clean rain—or, preferably, distilled—water should always be used in melting wax. Acids, such as vinegar (acetic acid), sulphuric, nitric, &c., to combine with the lime, &c., in hard water. It, however, requires a knowledge of chemistry to enable one to purify water by means of reagents, and I cannot advise their use by unskilled persons, when distilled water may be bought at any chemist's shop for a few halfpence per gallon.—*Thornton Heath.*

(To be continued).

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The Editors of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "The Manager, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*" *(see 1st page of advertisements)*

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

LAYING WORKERS.

[2388.] With the thermometer 6 deg. below zero this morning (January 3)—I suppose you would call it 38 deg. of frost—it warms my heart to receive the cordial greeting of Mr. Brice on page 515. Here's wishing health and happiness to him and all the B.B.J. family.

Just this minute I cannot lay my hands on the number of the Journal to which he

refers, and I'm a little afraid I may have been careless in my statements. If I intimated that eggs in queen-cells were in general proof of the presence of laying workers, any novice would know there was at least a misstatement. Equally it would be a misstatement to say that a plurality of eggs was invariably a sign of a laying worker; for, as Mr. Brice says, a queen with insufficient bees will often duplicate or triplicate eggs in a cell.

Now I'll try to give what I ought to have said, if I didn't say it. And there is, of course, the possibility of mistake on the part of one whose observations are generally made in the rush of work, with usually no notes taken, and only memory to depend on. I think I have seen cases in which laying workers were present, and yet no eggs were in queen cells, for I can remember being very much puzzled to decide whether laying workers were present or not. But, as a rule, laying workers will have eggs in queen-cells. I don't know for certain, but I think I have seen as many as ten or a dozen eggs in a single queen-cell. I do not remember that I ever saw more than one egg in a queen cell unless laying workers were present; so, if a queen cell is found with more than one egg in it, it would at least point strongly in that direction.

Now and then I have seen a single egg in a queen-cell, with neither eggs nor brood to be found elsewhere in the hive. I should set that down as nearly certain proof of the presence of laying workers. A rare exception to the rule I once found after this wise:—A colony with a good queen swarmed. She was a clipped queen, and the swarm returned. I took away some brood, two or three combs perhaps, and the colony swarmed out again next day. This performance was repeated, more brood being taken out after each act of swarming, daily, until nothing but frames of foundation were left in the brood chamber. In spite of that, those bees had I suppose "got their blood up," by my daily attempts to baffle them, and out they came, leaving the empty foundation except one small queen-cell cup with an egg in it. I must mention that a super of honey was left on all the while. If I had taken off the super I think they would have given it up.

Again, I once had a queen, raised in a weak nucleus, that laid only two or three eggs, one of them being in a queen-cell.

In reply to a question of Mr. Brice, I cannot recall more than one case in which I saw a worker in the act of laying, although my assistant insists that I called her attention to it in more than one case. Whether one or more, I think the worker laid not in a queen-cell but in a worker-cell, and I never paid any attention to what became of it.

From what I have read lately, I suppose that instead of a single laying worker in a hive there are many, perhaps a majority.—C. C. MILLER, *Marengo, Ill., January* 3, 1896.

MOVING BEES TO HEATHER.

[2389.] Although late in the day, I should be glad to give my experience of sending bees to the heather, in reply to "A Beginner," B.J. December (p. 495). I send my bees every year to the moors, although it is a distance of eighteen miles, and expensive, as they have to travel by road; but as the honey flow here is uncertain, the cost of feeding up with sugar in the autumn, is often so considerable as to almost exceed the transit to the heather, and is never so satisfactory and much more trouble. The honey flow is over by the middle of July, as a rule, when I at once examine every frame in every hive, and cut out the queen-cells if not working for nuclei—making sure there are no signs of foul brood or any other disease, and sweep the floor boards clean.

The last week in July or first in August is the time for the heather here, for it is not the first kind that comes out "bell heather" from which the honey is made, but "brig" —the small flowered one in long spikes—and it is not advisable to send the bees until the latter is just beginning to flower, of which anyone from the neighbourhood, or the people at the place where the hives stand, would let you know. As there is generally a fortnight between the end of the honey flow and time for the moors, if my colonies are very uneven, I take some frames of honey from those that have more than enough, uncap, and give them to the weak colonies, and if I have any requiring re-queening I kill the old queens and unite the old colonies and nucleus swarms that I have raised, and this plan has always answered; so that I send every colony to the heather, good, bad, or indifferent, and only one year out of the ten in which I have sent bees have I lost a colony at the moors. "Beginner" is right though about the result per hive being uncertain; it is, but, as a rule, unless a very bad season for heather (as '94), every colony will make enough to winter upon, and if not, upon examination when they return, I again equalise the stores, and never leave less to winter each colony upon, than 20 lb., which generally lasts until beginning of March.

I never contract the brood chambers, and have never known my bees to swarm whilst at the heather; but then, a few days before sending away, I extract every bit of honey out of the supers, and if there are any frames full in the brood chamber, without any signs of brood, they are extracted too, so the queen has plenty of room to go on laying.

It is necessary to extract for another reason, too—viz., that the harvest from the moors may be pure heather honey, and not mixed. One thing I have learnt from experience; to always put two cakes of candy in each hive before sending off, as in case of bad weather and bad season the bees do not die of hunger,

which one often sees, alas! when paying a visit to see how the bees are getting on at the moors after they have been up about a fortnight. It is of the Yorkshire moors I write. No doubt the time for the heather to bloom may be rather earlier in the south. Should there be absolutely no forage between the clover and heather harvest, then a little dry sugar feeding is advisable, but it is unwise to extract so closely as to need this.—G. W. W., *Malton, Yorkshire.*

OLD COMBS OR NEW
FOR EXTRACTING?

[2390.] Occasionally the question has been raised whether combs that have been bred in, or those that are new and kept free from other deposits, are best for securing extracted honey.

From the time when I first possessed an extractor, I became impressed with the enormous advantages possessed by tough breeding combs as compared with quite new combs; and to this day I have had no cause to alter that opinion. One does not want "old," worthless combs for either breeding or storing, but the strength of the combs which have been through the brood chambers gives us a distinct advantage in rapid handling throughout, while they can be emptied cleaner than new brittle combs. I may say, in passing, that drone cells are far ahead of worker for extracting; while, of course, wiring is necessary if we hope to get the best results, from new combs in particular.

Besides the time saved in handling tough combs, they have a distinct advantage in that they may be stored more satisfactorily, and will remain in a good state of preservation for a number of years.

No one working for extracted honey on a large scale can afford to use only new combs. Why? He finds they require renewing too frequently, and this is objectionable where wiring has to be carried out, and wasteful because deterioration of wax is a distinct loss. He is troubled with more breakages, or, as an alternative, does not get the cells clean, and loses time by the slower motion required. By storing these when emptied they lose the essential oils so necessary for their preservation, the wax perishes, and the combs rapidly depreciate. Tough combs which have been bred in have the wax protected in such a manner that this loss and depreciation is less evident.

Finally, to come to the supposed reason why new combs are preferred by some bee-keepers, it appears that an impression is abroad to the effect that honey must be cleaner and brighter from these. In practice, however, I have not found any difference between that from new and so-called old combs. One comb is as clean as the other for all practical purposes, but if the respective combs are to be mashed up, with their contents, of course one's preference would be for the new combs; and only under this condition of securing honey should I find any advantage in using new combs. With foundation so cheap as it is, that might be found the best plan after all, dispensing with wiring, storage, and depreciation of the bee-keepers' stock in wax.—S. SIMMINS.

A COUNTY BEE-CENSUS.

[2391.] I have much pleasure in replying to your note asking for particulars of our attempt to attempt to obtain a census of the bee-keepers in the county. It was while endeavour to get information as to the spread of foul brood in 1894 that the want of a reliable list of bee-keepers in the county was forcibly brought home to the minds of the committee of the Essex Bee-keepers' Association, and in the spring of 1895, having concerted a plan with our hon. sec., I undertook to try to obtain a bee-census of the county. The plan is a simple one:—A printed form ruled in columns for names, addresses, and description of hives has been sent, with a polite letter of request and a stamped envelope for reply to the head master or head mistress of every parish school in the county, asking them to get the information from the children, fill up the form and return it. The returned forms were cast up, tabulated, and indexed, then put away in alphabetical order for reference.

The sixpenny map of the parish boundaries of Essex has been found useful, an index number corresponding to the number on the forms, and on the table of results, has been placed within each parish, and all parishes from which we have had returns have been coloured, thus showing at a glance where we have still to strive. The table of returns is made out thus:—

Parishes by Unions.	Index Number.	No. of Bee-keepers.	No. of B Frame Hives.	No. of Skeps.	Bee-keepers whose Hives are not known.	Remarks.

and on making it up on December 31, I found we had obtained the following results:—

There are 403 parishes to which requests have been sent. 191 have sent replies, with 1,329 names of bee-keepers who hold 1,499 bar-frame hives, and 2,285 skeps of bees. 340 of the bee-keepers were returned as "stocks unknown." They, at the same average, may be estimated to have 1,300 stocks of bees, which would make 5,084 stocks

in the 191 parishes. If we estimate the whole of the county by the same average (and the returns sent in have come from all parts of the county), there would be an estimated result of 2,804 bee-keepers holding 10,727 hives and skeps. I am now getting ready to send a "second application" to those who have not replied, and I earnestly trust that it may succeed in bringing in most of the missing ones. I have found very varying degrees of willingness to assist in this endeavour on the part of the school teachers and we are very grateful to all those who have taken care and trouble in answering.

The results thus far obtained have much surprised many members of our association, and have put us in a far better position to do the work for which the association was founded.

Should there be any other points in connection with this that occur to you I shall be pleased to answer them.—Thos. J. Weston, *Wickham Lodge, Wickham Bishops, Essex.*

MR. G. WELLS'S "WAX CAKE" FOR 1895.

[2392.] My offer of bee-seeds and plants free (on p. 516 of B.J. for December 26) brought me so many applications that I could not "fill" orders so fast as some desired, but my stock is not yet run out, so all will be supplied in time. I have also received many letters expressing sympathy for me in my foul brood trouble, and in here thanking the writers, hope I shall soon be able to tell them how I have rid my bees of the disease.

In 2377 (p. 23), our friend, Mr. Woodley, refers to my cake of beeswax for 1895, and is apparently mystified as to how I got it. Well, in a previous number of B.B.J. I gave full particulars of my wax extractor, and its use by myself. Reference to the same will save my repeating the information then given. I hope it will be enough to say that I gave the weight correctly, and I will gladly give the dimensions if that will help in any way to understand it. The cake is 27 in. long, 17 in. wide, and 6 in. deep, and, as I have said, I shall be very pleased to show it to any one who might wish to see it.—G. Wells, *Aylesford, Kent, January* 20, 1896.

PREVENTING SWARMING.

[2393.] Since you inserted my letter (2368, p. 10), many applications have reached me asking for particulars of the method of preventing swarming I mentioned in it. I have answered a good many of the letters, but as writing is not quite in my line, it might be as well if you would allow me to say in your Journal for the benefit of all who want to put the plan in practice.

The point I want to impress on readers is that if we give bees room to build combs below the brood-nest they will lower, or carry downward, the said brood-nest, and store honey in the upper portion previously occupied with brood. I have tried this plan, but it never prevented swarming with me, and I was obliged to try something else, which I did as under:—

I fix below the floor-board a non-swarming chamber, consisting of a sliding drawer fitted, not with frames of comb, but what are practically wooden dummies ⅜ in. thick, and having a ⅜ in. bee-space all round. The back of the chamber or drawer has a square of small-hole perforated zinc in it covered with a shutter. When the weather is very hot this shutter is removed, and the bees thus get a current of cool air below, which causes them to ascend higher into the upper surplus chambers. Of course, there is no room for comb-building in the non-swarming chamber, as the dummies are only spaced at the usual distance apart. I have never yet had a single swarm from a hive fitted as above, and until some one has tried it and failed, I must keep my opinion that it is a sure plan of stopping swarms from coming off. —H. Seamark, *Cambs, January* 19.

FLOWERS OF JANUARY.

[2394] January 19, a most lovely day. I went a long walk this morning and could find only three flowers, groundsel, barren-strawberry, and a daisy. The bees from my sixteen hives were disporting themselves in the delicious sunlight. How glad they must be to unfurl their sails to the warm breeze and feel their feet on the petals of a sweetscented flower!

There is nothing in the fields for them I know, but in our gardens many things have flowered with unusual freedom—owing to the mild open weather. A bed 16 ft. by 4 of the Bath variety of the Christmas rose (*Helleborus niger*) has many thousand blossoms—wide open cups against the dark brown earth-spread. A few sprays gathered, or even a few flowers set in damp moss, of the Japan allspice (*Chimonanthus fragrans*) will fill a room with fragrance. Showers of blossom are on the yellow winter jessamine (*jasminum nudiflorum*), and tufts of scarlet—orange scarlet—apple blossom on Syrus japonica, right away from any protecting wall. What a lot of lovely things we have from the celestial empire; these, with lilacs and laburnums, hardy bamboos and gorgeous lilies!

One or two buds of winter aconite (*Eranthis hyemalis*), sweet smelling Daphne Mezereum rosy-lavender and white, crocus imperati, hardy cyclamen—these are nearly all that flower naturally at this season. There are many others, however, that have stray blossoms — snapdragon, stenactis, pansies, violets, primroses, polyanthus (quite a show),

double daisies, rhododendron, hybrid pinks, geums coccineum and muriatum, saxifrage, burseriana, &c. The market is already gay with narcissi and daffodils, freesias and anemonies from the Scilly Isles, and south of France ; so that here, close to a great town, winter has been reduced to two months or a little more. The odour of a bunch of jonquils which is borne to me as I write, tells plainly that already the year is opening its great wide arms.—LORDSWOOD.

HUMBLE-BEES.

[2395.] Referring to your last issue (page 29), I am glad to see that the poor, despised humble-bee—the "lazy drone" of the days before we became acquainted with the male honey bee—has received notice in the B.B.J. Personally, I owe a great deal to it, for it was in finding and taking a nest of the not very common *Bombus sylvarum* under a furze-bush some years ago that I was first led to take an interest in all bees, our honey-gatherer included.

Apart from the delightful recollections, so graphically described by your correspondent last week, that the thought of the humble-bee brings back to us, especially at this gloomy season of the year, when the pleasant attributes of summer seem so distant, there are points connected with its life history that cannot fail to be of interest to the intelligent bee-keeper.

The humble-bee (of which there are fifteen British species) is the closest relative that the honey-bee possesses in this country. This fact should be of great importance to the scientific admirer of the latter insect, for many of its extraordinary instincts may be seen developed in a somewhat modified and imperfect degree in the humble-bee. To the evolutionist the comparison between the two insects has additional attractions, for he observes habits gradually forming in the *Bombi* which have been elaborated with such wonderful effect in the genus *Apis* as to totally eclipse its progenitors in point of intelligence and utility.

If you will be good enough to allow me a little of your valuable space, I should like to compare in various ways three distinct kinds of bees, viz. :—

1. The "solitary bees" which do not live in colonies, of which there are about 185 species indigenous to Britain. One of the commonest of these bees is the *Andrena fulva* which, clothed in its lovely scarlet jacket, is so conspicuous as it rifles our currant blossoms in the early spring.

2. The "semi-social bees," the humble-bees, which dwell in colonies and have workers during a part of the year only.

3. The true social bee, the honey-bee, which lives in the hive all the year round.

REARING THE YOUNG.

Andrena.—The larva, having its portion of food placed ready for it before its birth, develops into a perfect bee without the aid of nursing or of artificial warmth of any kind.

Bombus, lower division, *Pouch-makers.*—Food in the shape of pollen is given by its being dropped from the posterior tibiæ of the workers into pouches or pockets of wax made at the side of a lump of wax-covered larvæ. The brood requires warmth and a certain amount of nursing for its proper development, although several hours' exposure on an ordinary summer's day is not necessarily harmful to it.

Bombus, higher division, *Pollen-storers.*—In feeding, these bees differ from the pouch-makers in having the food supplied from the mouths of the workers through apertures temporarily made in the coating of wax which covers them.

Apis.—Each grub is carefully nursed and tended. The temperature of the brood-nest is maintained with the utmost care, a short exposure of the immature bee being often attended with fatal results.

PRODUCTION OF STERILE FEMALES (WORKERS).

Andrena has none.

Bombus.—The first eggs laid produce the workers, which are sterile only so long as the egg-laying powers of the queen-mother are on the increase. When fertile they can only as a rule produce males. With the *Pouch-makers* they number 30 to 100, according to the species ; with the *pollen-storers*, 50 to 250.

Apis (*mellifica*).—Workers number 20,000 to 30,000 ; when normally formed, always sterile.

POLLEN FROM THE FIELDS DEPOSITED

by *Andrena* in a pellet on which the egg will be laid.

By *Bombus*, *Pouch-maker*, in a pouch at the side of a group of wax-covered larvæ.

By *Bombus*, *Pollen-storer*, in cells for storage ready for future use, either in old cocoon-cells or in specially-prepared waxen cells.

By *Apis* always in waxen cells for storage until required.—F. W. L. SLADEN, *Ripple Court, near Dover, January* 18, 1896.

(Conclusion in our next.)

BIRDS AND BEES.

BIRD SANCTUARIES IN NEW ZEALAND.

In the Naturalist columns of *The Field* appears an article on the above from which we quote a passage possessing interest to bee-keepers as touching the question of birds and bees. We cannot however agree with the deduction made in Mr. Boscawen's report, seeing how amply such birds as feed upon bees are guarded by nature with the means

of avoiding damage to themselves in seeking food. The article reads as under :—

"There is a hint in this passage of the dangers that threaten these native birds even in the sanctuary. The Maoris also state that some of the honey-eaters and other small native birds have diminished very much in number since bees made their appearance on the island. Mr. Boscawen, the officer already quoted, thinks that the birds are stung by the bees, and so killed. He writes :—

"'Closeby my camp was a nest of young bell birds (korimako of the Maori), and I watched the old ones feed them ; and it is my idea that the birds do not get killed by the bees when on the flowers looking for honey, but when seeking for food for their young, as I frequently saw one of the old birds catch a fly and take it to the nest. If there had been bees on the island and it happened to have been one, the bird would have been stung and would have died, and so would its young. The old birds do not feed their young on honey, but on insects; and I believe the general idea is that the birds while seeking honey thrust their tongues into the flower, and, if there is a bee there, get stung. So some of them may, but I think only on the puriri, it being about the only flower in the bush up here that would hide a bee.'"

Queries and Replies.

[1410.] *Single* v. *Walled Hives and Hives with Outer Cases.*—1. Is it conclusively proved whether a single-walled or double-walled hive is the best under all circumstances ? 2. Will bees wintered in the open in single-walled hives of ¾-in. thick wood be likely to winter as safely and be in as strong condition in early spring as those wintered in double-cased hives ? As a comparatively young bee-keeper with single-walled hives, I don't want to go to the expense and labour of double-walled ones if the former will give as good results generally. You will notice that I am located in East Yorkshire. Opinion seems to be divided ; but I should like to be settled upon the matter, so that in future all my hives may be of one kind, which, as you are no doubt aware, is of great advantage.—E. Y. B. K., *Howden, Yorks., January* 17.

Reply.—The question put to us in the above is a "poser." In fact, it is rather like asking whether Brown-Smith's first-born really *is* the finest baby that ever lived, as Brown-Smith fondly asserts it to be ? Anyway, we can go no further than declare it conclusively proved to the Editors of this Journal that light, portable brood-chambers and surplus-boxes, with a loose outer-case, capable of contraction and expansion, is the best type of hive for use in this country. It is, however, quite distinct from the "double-walled hive" as the term is generally understood. No doubt a cottager, or one to whom every shilling expended is of considerable importance, will do wisely to adopt a cheaper form, unless he has ingenuity enough to carry out say the "bacon-box" plan well described on page 25 last week.

We may also add that—so far as our exceptional means of acquiring information on the subject enables us to judge—a very large number of those well qualified to express an opinion agree with us. But we none the less admit that bee-keepers who entertain different views are perfectly right in maintaining whatever preference they may have in an opposite direction. *Our* preference is the outcome of a long and somewhat costly experience, after making trials of most types of hives for which special advantages are claimed. Bearing in mind therefore the enormous benefit—besides comfort and convenience in working—derived from uniformity or interchangeability in all hives and appliances used, we offer the benefit of our experience to readers just for what it is worth and no more.

[1411.] *Wiring Frames.—Hiving Swarms.*—I notice in the book I have on bees that the comb foundation is said to be fixed by means of wire to the frames. 1. Kindly inform me, through the medium of your much-appreciated B.B.J., whether it is necessary to have wire both sides of the comb. 2. I have made a hive with the floor-board fixed to the walls so that it is impossible to raise the entrance. It is, of course, sufficiently high to allow the bees to pass in and out in the ordinary course. Will this be a difficulty in the way of hiving a swarm.—H. E., *Birmingham, January* 14.

Reply.—1. The sketch here shown (fig. 1) will explain the method known as "upright wiring," which is a simple one, and quite effective when properly done. The modus—as described in a former issue of B.J.—being as follows :—

Fine tinned wire (No. 30) is used, and we will suppose our frame to have its top-bar

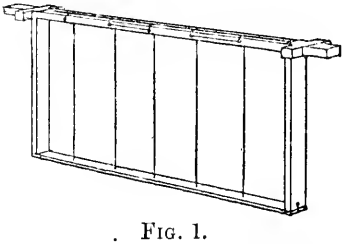


Fig. 1.

sawn through—as nearly all frames are now sent out so. Five three-eighth-inch tacks are driven—not quite close home—along the front side of top bar as shown in the cut, five holes being bored through the exact centre of bottom rail, opposite the tacks above. A turn or two

of the wire is then passed round the first tack on the left, and the tack being driven home, the wire is secured. Fig. 1 will explain how the wire is passed round the tack-heads, through the divided top-bar and the holes in bottom rails, and finally secured round a tack, driven in the side bar on the right. The frame thus wired is ready for the foundation, and to assist in this a "block" (Fig. 2) is necessary. This is a piece of board rather less than half-inch thick, and small enough to fit easily within a standard frame. On one side of the board are nailed two strips of wood, ten inches long, so that the top and bottom rails of the frame will rest on these strips, while the board fills up the frame and allows the foundation to lie on it in proper position for wiring. A small screw-driver is inserted in the "saw-cut" and turned half round, thus parting the frame to allow of the sheet of foundation being slipped in *behind* the wires, which lie upon the front surface of the foundation when placed on the block. Some such tool as the "Woiblet spur embedder" (Fig. 3) is used to embed the wires into the foundation, the wheel being heated

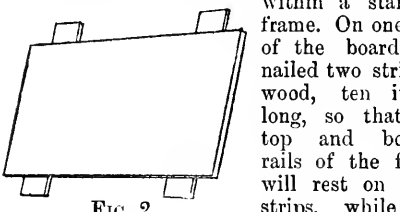


Fig. 2.

Fig. 3.

sufficiently to melt the wax as it passes over the wire and forces the latter into the foundation. If the top bar of frame has no saw-cut, holes are bored through it, as in bottom rail, and the wires passed through them.

Though many experienced hands aver that no trouble results from the above method, some object to it because the strain on the light bottom rail, often used in frame-making, is so great as to cause it to bend upwards, and by thus increasing the space below the combs, brace combs are sometimes built between the several stories of surplus chambers.

The second method (Fig. 4) is an American one, and in it the strain falls wholly on the

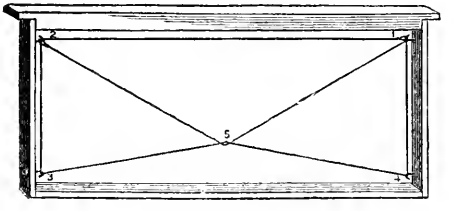


Fig. 4.

side bars, through which four fine wire nails are driven, at the points 1, 2, 3, and 4. The points of these nails are then bent hook-form with a pair of pliers, and the wire, first fastened on No. 1, is passed round back to the hook from which it started. The fifth stretch of the wire passes from 1 below the bottom stretch at 5, and is fastened off at 2.

2. Floor-boards should never be "fixed" in the manner described, but it should not cause very much difficulty in hiving the swarm if the entrance is $\frac{1}{2}$ in. or more in height. Should it be less than this, we should look out for the queen when bees were thrown out in front, and see that she enters the hive. This done, the swarm will follow in due course, even if the bees cluster outside for an hour or more.

[1412.] *Moving Bees from Wall of House.*—I am a novice, and should be glad to know what you would advise under the following circumstances: A swarm of bees went through a wall of a house and settled in the cavity between the boards and the ceiling. This occurred two years ago. How can I get them out? They can be reached by taking a flooring board up, but I am at a loss how to proceed then. When would be the best time to start?—H. J. Skelding, *Treforest.*

Reply.—Bees located in the position described require some management to get them successfully into a frame-hive. Many accounts have appeared in our pages, to which our correspondent might refer. The task is, however, so difficult for a "novice," that we should certainly advise obtaining the assistance of a practised hand if such help is obtainable. April or May would be the best time for the operation.

[1413.] *Confining Bees.*—Is it advisable to shut the doors of bee-hives with perforated zinc? Owing to the unusually mild weather my bees are coming out in hundreds, and most of them get chilled and settle on bushes, cabbages, &c., and there die, to be eaten up by blue tits, which collect in numbers.—E. M. N., *Kintore, N.B., January* 17.

Reply.—Hive entrances must on no account be closed to confine the bees, but there is no objection to shading them from the bright sun by boards as stated, so long as the boards are so fixed as to cause no obstruction to the bees entering the hive as usual. The fact of bees coming out in such numbers to be chilled outside, indicates restlessness that is not natural. Have they sufficient food? At any rate if the mischief continue we should take the first opportunity to glance below quilts and see how matters stand.

[1414.] *Fertilising Queens by Selected Drones.*—Is it possible to get queens mated by selected drones? Or do you know any book on the subject? I tried last season to raise a few pure mated Italians as early as the last week in April, and, in order to attain this desired end, had plenty of Italian drones flying as late as the middle of September,

while all my native drones had been killed. In spite of all my trouble, however, the queens met natives from somewhere. Can this mating by selected drones only be done by queen-raisers, or is it within reach of amateurs?

The bees in this district are fast becoming hybrids, as one can see at driving time, almost every skep having its inmates going up into the empty skep marked with the yellow bands. No doubt I am one of the offenders, if it be an offence, to cause such inroads of the foreign blood, but I think the bees are no worse for it. Anyway, I have not heard any complaint made, and cannot find any fault with hybrids myself. But it would be advantageous to have one's queens mated with selected drones from stocks known to be good honey-gatherers. I visited a friend last September, and he had a stock with hundreds of drones flying at that date. Not a queenless lot, either, but a good, prosperous stock of natives. I find Italian queens choose native drones and *vice versa*, if there are any within three or four miles.—O. KNIGHT, *Epney, Glos., January* 13.

REPLY.—We know of no book published on the subject. Several attempts have, however, been made to secure fertilisation of queens by selected drones—some even going so far as to think it could be accomplished by providing roomy cages for "mating" in confinement—but nothing satisfactory has resulted, and the attempts have been given up. All that can be hoped for is in the line followed by yourself, *i.e.*, having only the desired drones on the wing when the young queens are taking their first flight. Personally, we have, at infinite pains, got the particular drones hatched out "very early," but some cottager, with his small skeps, in warm, sunny corners, would have drones on the wing before us, and our efforts went for nothing. We do not agree with the notion that queens seek or prefer alien drones for mating with; the probability is that the long flights taken by both drones and queens during the marital season accounts for or explains the result stated.

[1415.] *The Weather in North Wales—Moving Bees.*—Just to show how mild the weather is here, I may tell you snowdrops and primroses have been seen in bloom, and to-day a sparrow's nest, with four eggs in, was found in the roof of an outhouse. I broke one of the eggs, and found it quite fresh; in fact, I saw the old bird fly off, or would not have noticed the nest. I consider this very unusual for January. I also notice my bees buzzing about as if it was April. Quite a contrast to January, '95. When is the best time to remove bees? I have my hives in a yard by the house, but find the fowls kill a great many of them, so I am anxious to locate them in a garden a quarter of a mile off.—S. COREY, *Rhuddlan, N. Wales, January* 20.

REPLY.—Bees should be moved, if possible, after a long spell of confinement to their hives through cold; but winter time is generally a safe time so far as avoiding loss of bees through their failing to find the hive.

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

ROBERT BOYLE (New Southgate). — *Bees Thrown Out.*—It is not at all uncommon to see a score or two dead bees thrown out of a hive in January, and need cause no alarm. Should there be any doubt as to sufficient supplies within the hive, take the first opportunity to slip a cake of candy on the top of the frames. Nothing beyond this should be done for several weeks to come.

G. T. THOMSON (Blackheath).—*Using Combs from Foul-Broody Hives.*—If the stock was so slightly affected with the disease as stated, and the "beautifully clean combs" are perfectly dry so far as honey, we should certainly risk using them again in surplus chambers, after syringing well with a solution of soluble phenyle, and allowing them to dry before using.

ROBERT NESS (Sproxton).—We are especially gratified (under all the circumstances) at the receipt of your congratulatory note *re* appointment of Secretary to the B.B.K.A., and will put your communication before the Council.

T. N. CHEESEMAN (Doncaster).—*Moving Bees Ten Yards.*—We should take first opportunity, after a few weeks' confinement to the hives by cold weather, for moving the hives. The fact of changing the position in the open to a bee-house will of itself so mark the change that the bees will at once notice it, and little or no loss will occur.

*** *Errata.*—Our correspondent "Lordswood" writes us as under:—

A CORRECTION.

"Please state in this week's issue of B.J. that the last paragraph of 'The Humble Dumbledore' in last issue should have been in inverted commas—the whole being an extract from Jefferies's 'Pageant of Summer.' If the mistake was mine I apologise.—Yours faithfully, LORDSWOOD."

After examining the "copy," we are very pleased to acquit our esteemed correspondent of any blame, the MS. being plainly "quoted" in the usual way. An apology is, therefore, due from ourselves on behalf of the usual "reader," and is freely offered.—EDS.

Editorial, Notices, &c.

EUCALYPTUS BLOOM,

AND ITS INFLUENCE ON THE PRODUCTION OF HONEY.

Our esteemed correspondent Mr. F. McConnel, of Blackyett, Ecclefechan, sends us a report of a valuable and interesting paper on the Eucalyptus and its influence on the production of honey of Australia, read before the Royal Geographical Society of Brisbane, in September last, by his nephew, Mr. D. R. McConnel, secretary of the Technical College of that place. The paper is of much value to bee-keepers as deciding several points on which opinions vary.

Slightly abridged, it reads as follows :—

"Perhaps in no part of the world is the native flora characterised by so general and abundant a secretion of honey as in Australia, and at the same time by such capricious appearance of its blossom. The former feature is remarkable, because the honey-gathering insects are comparatively few, and the native apidæ rare, for the most part, too insignificant in size to fulfil the function of floral fertilisation. Probably in the case of flowering trees this arrangement is partly secured by the crowds of honey-sucking parrots and other birds, which scream and chatter among the laden boughs, and completed by the honey-eating beetles, of which there are great numbers. The uncertainty of the times of blossoming, on the other hand, is a feature more remarkable than the first, and extremely disconcerting to the apiarist. In Australia, at any rate in Southern Queensland, it is almost an abnormality for eucalypts to blossom in successive years, or within weeks, or even months, of the preceding time of flowering; while they will occasionally, though rarely, blossom twice in the same year—*i.e.*, during the twelve months from winter to winter. Comparing season with season, it seems that most eucalypts would blossom normally every other year; but, through an ages-long experience of our variable climate, they have developed an excessive, one might almost say prescient, sensitiveness to meteorological conditions. They are guilty of no temerarious lavishness in their arrangements for continuing their species. In wet seasons they will scarcely blossom at all, even for two or three years. In dry seasons they will blossom year after year until the next wet period. Indeed, it may be said that the hotter and drier the season the more abundantly they flower. But the very shoots of these trees seem to wait until the last moment to decide whether they shall become tufts of new leaves or bunches of honey-laden blossom; and if by any chance they have been deceived by appearances of drought into the formation of the latter, they possess the power, even after the flower-buds are apparently fully formed, of remaining month after month unopened. I have seen a grey gum (Eu. Saligna) in my stable-yard with flower-buds that hung for thirteen months without any apparent external change until they finally burst into blossom at the end of that long time of waiting. This was during the flood year of 1893. Incredible as it may be thought, I believe that careful comparative observations continued through a number of years would give data upon which fairly reliable forecasts of coming seasons could be made. For example, the last two years, reckoned from May to May, have been an unusual period of intermittent rainfall, and therefore of unusual suitability to agriculturists in general. During that time the eucalypts have occupied themselves in extending their leaf growth; but as early as April this year almost every kind of eucalypt might have been observed to be developing extraordinary masses of flower-buds, and if the season should prove dry throughout, though not an unmixed blessing to the community in general, it will bring a wealth of harvest to the hives.

Besides the irregularity of seasons referred to, eucalypts vary exceedingly in the normal time of flowering according to the individual kinds. Eu. Maculata (spotted gum) flowers usually in midwinter; Tereticornis (blue gum) about August; Crebra (red ironbark) about September; Melano-phloia (silver-leaved ironbark) early in December; Sidero-phloia (gray iron-bark) sometimes in December, oftener later; Corymbosa (bloodwood), usually the latest, about March; and so on through the numerous kinds of the species. But the blossoming of individuals fluctuates according to their distance from the coast, or position north and south. Perhaps of all the sorts in Southern Queensland, Tereticornis (blue gum) and Corymbosa (bloodwood) are the most constant as to the flowering time of year. It is evident then that, were it not for their irregularity in blossoming, eucalypts would provide an almost unequalled succession of honey flow throughout the year. However, the varieties do not grow so near as to provide this continuity in one locality; although so many are the different kinds that hardly any wooded district could be without something approaching it. The yield of honey from most varieties is enormous. The quantity of nectar compensates the bee-keeper to some extent for the irregularity of blossoming. But it is not safe for him to depend upon eucalypts alone; and there are other trees and shrubs which give an equally good and in some cases a better quality of honey. They belong for the most part, like the eucalypts, to the Myrtaceous order (and I cannot help regretting that in a late enumeration of the products of this order, made, as published, by a distinguished botanist of this city, mention was omitted of a product so valuable and distinctive as its yield of honey). Most of the

tea-trees are very rich in honey, the finest quality being obtained from those that beautify the river beds and watercourses—the red bottlebrush or river myrtle (Callistemon lanceolatus), and others. The paper-barked tea-trees (Melaleuca leucadendron, et var.), and other swamp varieties have abundance of honey, but of a rank, objectionable flavour and smell, and dark in colour. All the Angophoras (apple-trees and sugary gums) are good honey yielders, the so-called "sugary gum" (Angophora lanceolata) having a peculiarly luscious, thick, though dark, honey. The Tristanias are also most valuable honey-producers, especially the "swamp mahogany" (Tristania suavolens), which has a delicate honey of delicious, peachy flavour and aroma, perhaps the finest to be found in the colony. The plants mentioned all flower annually, mostly in the spring and early summer, and prefer moisture to drought, with the exception of the Angophoras, which share the irregularity of the eucalypts, to which they are most nearly allied. There are, besides, great numbers of flowering shrubs and trees in scrubs which also blossom annually, and yield honey of fine flavours and colours. So reliable are scrub flowers for a yearly yield that no bee-keeper is wise to select a locality for his apiary where his bees cannot easily reach them. The marshes and swamps on the coast are covered with honey plants, including a number of varieties of tea-trees and grass-trees, and the mangrove. But the honey gathered from such localities near the sea is very strong, saltry, and dark, and I am particular in mentioning these facts because eucalyptus honey is often credited with flavours derived from inferior sources. The results of a harvest and the market value of a season's take will be much modified by the presence of honeys other than from eucalypts.

Among the eucalypts themselves, the quality and quantity vary very much with the tree. The product of the blue-gum (Tereticornis) has a delightful musky-perfume, very distinguishable among the hives on a warm spring evening, and a pale amber colour; but as it blossoms in late winter or early spring the bees can seldom take full advantage of it for storing. In my experience the brightest and finest eucalyptus honey of Southern Queensland comes from the ironbarks, particularly the grey ironbarks (Siderophloia), and the broad-leaved or silver-leaved ironbark (Melanophloia), which is a stunted, crooked tree, and therefore seldom cut for timber. The bees seem to prefer the latter; I have seen them leave the gray ironbark almost untouched when both were in full blossom at the same time. The honey of the blackbutt (Eu. Pilularis) has the most unusual characteristic of not candying, even if kept for several years, probably on account of its extreme density, which gives it a jelly-like consistence, and makes it difficult to be extracted from the combs.

In none of the honeys of the eucalypts, so far as I have tasted them, is there the slightest suggestion of the flavour of the oil secreted by the leaves. It is doubtful that in any of the species the oil is secreted with the honey; so that the reputed excellence of this kind of honey for medicinal purposes is probably no greater than that of any other honey, and rests on no other basis than the general emollient and nourishing properties of the article from whatever source. The much-talked of and much-deprecated "eucalyptus flavour" seems to have originated in one of those commercial tricks which do so much damage to the interests of honest traders and producers. It will be remembered that a certain savant of a chemist travelling in Tasmania some years ago brought before the French public the extraordinary virtues of the eucalyptus honey he had found in that island, dark in colour, and gathered, as he stated, by black bees about half the size of the European insect. The story went the round of the newspapers, and it appears that some persons in Sydney pricked their long ears at the prospective profits of the new trade, and, purchasing a quantity of so-called "blacks'" honey, gathered sometimes on the Clarence River in large quantities by natives, and shipped to Sydney in casks, poured eucalyptus oil into it until they thought it had enough of the smell and flavour of that extract, and sent it off to London. About that time there appeared in the BRITISH BEE JOURNAL some paragraphs about the horrible "eucalyptus" smell of the new Australian honey, which threatened to stink visitors out of the agricultural show where it was exhibited. The BRITISH BEE JOURNAL is or was at that time (1891) edited by Mr. Thomas W. Cowan, F.L.S., F.G.S., &c., &c., a distinguished scientist, who had made a hobby of microscopes and bees, a member of the famous family of paper manufacturers in Edinburgh. An uncle of mine, also with a hobby for bees, was a personal friend of Mr. Cowan's, and had written to him on the prospects of a market for his Australian nephew's honey. Mr. Cowan's reply is in my possession, in which he assures my uncle that "if his nephew's honey is no better than the Australian honey he had seen and tasted he (the nephew) would have a difficulty in disposing of it." Mr. Cowan mentioned at the same time that Australian honey fetched from 25s. to 30s. per cwt., and was bought by druggists.

EXPERIMENTS IN HEATING HONEY.

After carrying out a series of tests with a view of ascertaining to what temperature granulated honey could be raised in melting without deterioration, a report has been issued by the Hon. R. L. Taylor, Superintendent of the Michigan State Experimental Apiary. Honey of known good quality was heated in a vessel immersed in

hot water up to the four temperatures respectively, ranging from 145 degs., 165 degs., 185 degs., and finally to 200 degs. Fahr., at which several temperature tests were made, and as a result, Mr. Taylor says, as recorded in the *Bee-Keepers' Review* :—

"After going above 165 degs. the honey rapidly deteriorates both in colour and flavour. The difference between the second and third is twice as great as between the first and second ; that between the third and fourth twice as great as that between the second and third ; and that between the fourth and fifth shows even a more rapid rate of deterioration, though the temperature was raised but a trifle, showing that simply the continuance of an unwonted temperature causes injury. It is quite likely that the continuance of a temperature so low as 145 degs. would prove injurious. The rate of deterioration in colour corresponds well with that in flavour. The third sample would still be classed as white honey, while the fourth is quite light amber, and the last just a good amber.

"In the absence of evidence that honeys from different sources can safely endure different degrees of temperature, we may assume that honey should not be subjected to a temperature above 165 degs., and at a temperature so high as that for only the shortest possible time."

KENT BEE-KEEPERS' ASSOCIATION.

ANNUAL MEETING.

The annual meeting of this association was held on Thursday, January 16, 1896, at the rooms of the Royal Society for the Prevention of Cruelty to Animals, Jermyn-street, W., the Rev. T. S. Curteis occupying the chair.

The annual report was read, and, together with the balance-sheet, received and adopted, the thanks of the association being given to the council and officers and local honorary secretaries for their services during the year 1895. J. A. Miller, Esq., of Bifrons, Canterbury, was elected president for the ensuing year. The council for 1896 was also duly elected, the names of Mr. J. M. Hooker and Mr. H. W. Brice being added ; the Rev. T. S. Curteis and Mr. H. F. Witherby retiring.

The office of hon. sec. to the association being rendered vacant owing to the resignation of Mr. Garratt, it became necessary to appoint a successor. No candidate having offered himself for the office, Mr. H. W. Brice, who is now the owner of a large apiary in West Kent, was, after some pressure, induced to undertake the office.

Mr. J. M. Hooker was reappointed representative of the association on the Council of the British Bee-keepers' Association.

The drawing for prizes awarded to cottager members of the association then took place, Mr. Charles Andrews (Smeeth) winning the first prize (a bar-frame hive), G. Collins (Kennington), G. Vouseden (Hawkhurst), R. Wood (Mole Ash), and Mrs. Belsey (Tong, Sittingbourne), each winning one of the four other prizes awarded.

The usual vote of thanks to the chairman brought the proceeding to a close.

It is requested that all future communications be sent and subscriptions paid to H. W. BRICE, hon. sec. K.B.K.A., *The Apiary, Thornton Heath*.

Correspondence.

The Editors do not hold themselves responsible for t opinions expressed by correspondents. No notice will taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*" *(see 1st page of advertisements).*

"NOTES BY THE WAY."

[2396.] What can I say of the weather this week? It is unseasonable, abnormally mild for the last week in January, and we have had practically no winter yet. But even, with no frosts since last October worth mentioning, I cannot say the winter is over ; yet the snowdrops and white arabis are in bloom, and the bees begin to visit the watering-places, showing that breeding has begun. Our parish clerk to-day told me that fifty-one years ago it was so mild that the white thorn was out in green leaf in February of that year, but that in the following March there was three weeks of continuous frost, a frost so hard that the farmers could not plough the ground. Possibly we may get a taste of similar weather before the fruit trees blossom.

Preventing Swarming.—Will Mr. Seamark kindly give dimensions of his non-swarming chamber below the brood-nest? I mean the size and depth of dummies ; and do the bees from the hive pass through the box of dummies to the entrance, or is the entrance in the hive above the bottom box ? and also, when the shutter is opened at the back to give air, do the bees use this exit as well as the usual entrance ?*

Old Brood Combs for Honey Storing or "Extracting."—On this point I can most certainly endorse Mr. Simmins' contention

*[We may here explain that owing to some vagueness in the MS. the non-swarming chamber (referred to in 2393 page 36) was stated to be fixed "below the floor-board." We now learn however from Mr. Seamark that the "chamber" is placed on the floor-board, below the brood-combs.—EDS.]

(2390) that honey extracted from combs in which brood has been raised in previous years will be equal in every respect to honey stored in the same super in combs built from foundation or natural-built combs from "starters" only. I should expect to get as clear water from clear port-wine bottles as from ginger-wine bottles, which are generally made of white glass. The old combs will bear the force of extractor far better than the new comb, unless the new comb is built on foundation with a wood base, then, when we attain to that desideratum, we shall not require any wire-netting over the front of the cages in the extractor, or at least only a very wide mesh.

Referring to the recent correspondence on super foundation, I have been asked could I account for the bees refusing to work it out? Sometimes the number of sections refused in one rack would be three or four or more. I can give no reason, unless the wax was milled too cold, and was thus rendered very hard, though one would think that the high temperature over a strong colony of bees would soften the wax, so that the bees could either work it out or build on it. I feel pretty sure, however, it is not the hardness of the wax but the lubricant used to make it pass freely through the machine that disgusts the bees, and accounts for their objection to the foundation. I had quite a number of sections myself refused by my bees last season, together with a few in which they built out one side and sealed it perfectly, leaving the other side untouched, and this among sections of first-class honey gathered in the height of the season. Our manufacturers are reticent as to their *modus operandi*, being, perhaps, unwilling to reveal trade secrets, and so help on their competitor over the way. To us bee-keepers, however, the publication of their methods would be no more than interesting reading, and I opine the majority of bee-keepers do not care a fig how foundation is made so that it is used by the bees in every section in every crate. Carefully-conducted experiments on super comb-foundations of different makers, carried out by the Hon. R. L. Taylor, at the Experimental Apiary at Michigan, U.S.A., during 1895, goes to prove that the quality of the wax itself has a great deal to do with the usefulness of foundation to the bee-keeper. The samples were obtained from the various manufacturers without their knowing that any test was to be applied to them. The foundation was used in alternate rows of sections all through each crate, which held twenty-four sections, and the heaviest weight of honey came from what is known in the States as "Given" foundation.

The result of the experiment was that Mr. Taylor considered the superior quality of the wax in this particular make of foundation among the samples tested gave it the lead in the experiment. The question therefore arises how far the recent endeavour to improve our wax by adding chemicals to it to clarify it in the extraction process may be accountable for the brittleness or hardness of the product, and this may be one of the causes of its rejection by the bees. Mr. Brice thinks that even the water in which it is extracted from the combs acts on it. How much more strong chemical acids?—W. Woodley, *Beedon, Newbury.*

PREVENTION OF SWARMING.

THE USE OF "NADIRS" AND "EKES."

[2397.] I think your correspondent Mr. Simmins has "stumbled into error" over my letter (2347, p. 522 of B.J. for Dec 26). I would therefore remind him: 1. That not a word is said therein about eke or extension of combs. I referred to a "nadir," and to a nadir only. 2. The terms "eke" and "nadir" are *not* obsolete, but are still used, articles named thus being offered for sale by manufacturers of modern appliances. The B.B.J. for 1895 also refers to these articles. 3. The term nadir signifies a chamber *below* the brood-nest, just as a chamber above brood-nest is called a super. The "Simmins'" non-swarming chamber being below brood-nest is to all intents a nadir, irrespective of its purpose. 4. I have followed very closely the correspondence on this subject during 1895, and it seems that all are more or less troubled with comb-building, and some with brood, irrespective of their success as regards non-swarming. One point worthy of notice is that the "Conqueror" hive is not heard of in the discussion.

It is merely twisting my words away from their true meaning to say that I "showed the value of comb-building." I assert that I am supported by first-class experts in saying that comb-building is undesirable, this argument being constantly used in lectures in favour of the modern system. The re-use of comb and the use of foundation, places the question of comb-building in the hands of the bee-master, for every 1 lb. of wax thus saved he gains 13 lb. of honey. I cannot accept Mr. Simmins' argument that "by using foundation we save neither material nor labour," preferring to follow the teaching of the "Guide Book," which says: "It takes 13 lb. of honey to produce 1 lb. of wax," so that the "bee-keeper who uses foundation largely has an immense advantage over one who does not." Add to this testimony the advantage of "wiring," and you leave comb produced from starters in the shade altogether. Nor is the "Guide Book" less clear on the question of extracting. It says: "When we bear in mind that bees consume about 13 lb. of honey to produce 1 lb. of wax, we can realise the advantages of a machine which enables us to give bees empty combs and thus save them the labour of comb-building." Possibly we may get new light on this subject in the promised new edition of Mr. Cowan's book.

Does Mr. S. refer to sections when deprecating the use of excluder, or does his con-

demnation of the "fad" extend to shallow-frames also? I accepted it as a known fact that an "excluder," is the best article for placing the queen under the control of the bee-master.

I take it the five points of the "Simmins'" system are—strong stocks early; young queens; abundant ventilation; room below the brood nest, and, last but not least, *no excluder*.

I will conclude by repeating to readers the simple question I asked at first, but which has not been answered, "Of what practical value is a nadir?"

(*a*) Will it give room early in the year without loss of heat in brood-nest? (*b*) Is it the best place to build what comb we want, especially drone comb? (*c*) Is it useful for storing honey with excluder on, and make an entrance into brood nest by placing the latter close to front wall of "W. B. C." hive? (*d*) Will it assist in preventing swarming even with combed-frames in hive, especially if ventilation is arranged for?

"Self-Taught" (238, page 251) has also made a mistake in reference to carbolic cloths, please refer to 2347, page 522.—A. WORKER, *Long Eaton, January* 27.

PREVENTION OF SWARMING.

TAKING A LESSON FROM THE BEES.

[2398.] Referring to the above in B.B.J. (pages 5 and 6, Jan. 2), as "Bee-Cycle" wishes to prevent swarming, could he not take a lesson from the swarm preventers he speaks of, viz., bee-homes in old buildings? As I once heartily wished for the same thing myself, I set about to try and find means of bringing it about, and am happy to say that up to the present I have succeeded, the desired result being safely realised by my making larger hives (of course my friends laughed at me, but to err is human). My hives hold not less than twelve frames 20 in. long, by 8½ deep. I know that this will rouse the "standard" devotee. A few nights ago, however, I attended a meeting when the secretary of the Association read a paper on "Profitable Bee-keeping," and he twice over said that the "standard sized hive" was too small. This gentleman was one of my chief tormentors years ago about my "dog kennels," as he called them. So far this has worked in practice, and several friends have adopted the same sized hive with good results.—WM. HALL, *Harden, Yorks.*

[Without entering into the question raised by our correspondent, we would ask what is the size of the so-called "Standard Hive?" No hive so named goes forth with the authority of the British Bee-keepers' Association, as is the case with the Standard frame. On the contrary, bee-keepers may make their hives to hold ten or twenty or forty frames; in fact, as large or as small as they deem best; but this in no way interferes with the undoubted advantage of one uniform size of frame, which we hold it to be of the utmost importance to keep unchanged.—EDS.]

BEES IN HAMPSHIRE.

[2399.] Not seeing any report from this part of Hants, I send you a line recording my bee-doings of 1895. I started the year with forty-five stocks in frame-hives; got few swarms, but tier upon tier of sections and shallow-frames. My best single-queen hive yielded sixty-three well-filled sections, and about 40 lb. of extracted; 103 lb. in all. I got altogether about half a ton of honey, and had little trouble in selling single sections at 1s., or 10s. per dozen. Extracted honey brought me 10s. per dozen 1-lb. jars. I have not kept account, but it pays me well. My better half also finds the honey-room very handy, and its contents good for the bairns; they all like it, but are not fond of bees, so have all the work to do myself. I have now forty-eight stocks, all in grand condition, and, if the season of '96 is going to beat '95, I shall have some work to do. Being away from home working from 6 a.m. till 5 p.m., I get some one to hive any swarms that come off during the day, and I fix them up in the evening after returning. We don't know foul brood around here, and don't want to. I lost three swarms on one very hot Sunday; they all made straight for our Cathedral, and located themselves under the roof. The workmen tell me that eight swarms went in at different parts of the roof of the venerable edifice. No doubt there is some good honey there, but it is far out of reach.

In every case my hybrid Carniolans gave most honey, but did not seal it so well as did our natives. Last Sunday was as warm as some days in May, and the merry hum made one think of ordering appliances, &c. We may, however, have winter yet, and those whose bees are short of stores had better be on the watch, for food is fast shrinking now. Most of mine had 20 lb. each when packed in autumn, and on taking a peep at some of my hives the other day I found it going fast this mild weather. Some stocks had patches of sealed brood as broad as my hand. I am sending you a sample of my honey for your opinion as to quality, if you will kindly report thereon. I have got one or two subscribers for our JOURNAL, but for cottagers it is rather too expensive. For myself, I get my B.J. on Fridays, and sometimes I find it hid away till I have finished my tea. You will guess by whom! "Tea first, bees after," says the goodwife.

I should like to see something done to meet the cottagers' pocket. I make most of my own hives during the long evenings, but all are not able to do this, and to buy everything is beyond the cottagers' means, who find it rather difficult to make both ends meet.

I killed my first queen-wasp on Sunday last. After keeping bees for thirty-five years I am not losing interest in them yet, although I get a sting at times. I drove a good many skeps last year with success, and fancy when stings come in confidence is at low ebb.

All readers here value the contributions of Messrs. Woodley, Brice, John Walton, "Lordswood," and others very much.

I found recently a rack of sections on one of my hives which had been entirely overlooked and forgotten. They were quite fresh, and not a bit candied. Thus I have taken off my first rack of sections for 1896 in January! Wishing to all a happy New Year.—F. Mower, *Box Grove Apiary, Winchester.*

[Sample of honey received is a very good one. Referring to cost per year for Bee Journal, we would remind our correspondents, friends, and those who do not care to pay so high a subscription as 6s. 6d. per annum that our monthly, the *Record*, can be had—by ordering beforehand—from any railway bookstall at 2s. per annum, or 2d. per copy.—Eds.]

DRIVING BEES.

AN EXPERT'S EXPERIENCE.

[2400.] I have been much interested, while reading the experience of your various correspondents in bee-driving, and well remember my own first attempt at "driving," when I followed the "close method," *i.e.*, a sheet tied closely round the junction of the two skeps. Long experience, however, makes the thing so easy, that I now often drive bees without even using driving-irons. I simply turn up the stock to be driven, push my knife between the full and empty skeps at the junction to hold them together, and hold the empty one in position with one hand, while rapping the full one with the other. The thing to bear in mind is never let the bees get the upper hand for a moment. With a good smoker and proper fuel this is easily done. With several skeps to operate on, I begin by blowing a few puffs of smoke in at every hive and give each a few smart raps on the sides with my hand. Never fail to do this. Then run your knife round the skep to disconnect it from the floor-board, giving more smoke to each as loosened. When all have been served in this way, on turning up the first skep, lay over the combs a cloth on which a few drops of carbolic acid has been sprinkled. Leave this on while fixing the skeps firmly together, then withdraw the cloth so as to uncover about three parts of the comb, and the bees will usually begin to run up at once into the empty skep. The driving should always be done if possible some little way off where the skeps are located, and in a shady corner if there happens to be one handy.

I could describe many humorous incidents of my driving expeditions, if space allowed. One bee-keeper, whose condemned skeps I "took" for several years, got it into his head that the smoke I used damaged his honey, and would only consent to my having the bees if I could take them without smoke. In vain I argued, and at last had to do the best I could with the help of the carbolic cloth. But I got the bees, nevertheless, and that by simply stopping the entrance with my cloth while I rapped the skep with my hand for a few minutes to frighten the bees, then turned the skep up, and "fixed" in the usual way for driving.—J. Martin, Expert B.B.K.A.

SECTION HONEY.

[2401.] A friend who is fond of honey, though not a bee-keeper, told me a few days ago that he would never buy sections, having more than a strong suspicion that they contained very often syrup, and not honey.

He suggested that the price of sugar, compared with the selling price of honey, might be a temptation to some persons, particularly in a bad season; but is there no fear of the sections becoming affected by the summer-feeding recommended in B.B. "Guide Book"? Even diluted honey may not always be available.

I have certainly tasted some sections which were rather a fraud on our native bee.—Hengist, *January* 25.

[The "summer feeding" recommended in the "Guide Book" should lead to no such fraud as our correspondent fears, seeing that the risk of sugar syrup being stored in surplus chambers is distinctly guarded against. When advising the feeding of swarms, the "Guide Book" instructions read thus:—"Swarms, *unless they have partially filled sections on them*, should always be fed," &c. (The italics are ours.) Again, in cases of feeding during scarcity of income in summer, it is advised to feed with honey, so as to "run no risk of having syrup stored instead of honey." We should, indeed, be sorry to think there was any uncertainty as to the views of the author of the "Guide Book" on this matter, apart from our known views on the fraudulent practice (now happily rare) of giving sugar syrup to bees while surplus chambers are on the hives.—Eds.]

FOUL BROOD.

[2402.] If this subject is not already threadbare, I should like to ask if any carefully-conducted bacteriological examinations have recently been made with a view to determining the following points:—(a) The life history of the bacillus; (b) the tissues invaded by it, and if several, which most so; (c) what germicides have been used, the strength of each, and method of use?

If I were troubled with foul brood in my hives I should proceed by first of all examining the parts of a bee microscopically and by frozen sections, as we do in human pathology.

I would then give the stock of bees a syrup containing a solution of a strong germicide, tasteless and colourless, and test weekly the parts affected by microscopic sections. For this purpose I would have a small nucleus stock to work with, give them very little natural stores, and by patient observation would ascertain what germicide, if any, would most quickly destroy these germs in the bees.

My impression is that salicylates of soda and borax and salicylic acid are far too weak in germicidal action, and it may be that bees can consume very strong germicidal poisons without harm, just as we find maggots will thrive in a heap of wheat saturated in a strong solution of strychnine.

Of course no honey should be used from the experimental hives.—B. WALKER, *Kirkby-Stephen, January* 22.

[We may again refer to the above in our next issue, and in the meantime would repeat what has been stated over and over again in our columns, viz., that no "germicide" or chemical agent at present known is sufficiently powerful to destroy the *spores* of foul brood without at the same time destroying the bees. It is also well known to those who follow the teachings of this journal, that the foul-brood bacillus is, in its active stage, comparatively easy to deal with, so far as preventing infection, by means of several simple preventives. The real trouble arises when the spore condition is reached, it being proved indisputably that boiling—unless continued for some time—will not destroy the vitality of these.—EDS.]

PREVENTING SWARMING.

[2403.] While thanking Mr. H. Seamark for his letter (2393, p. 36) upon the above subject, if he would kindly give a little more information by answering the following questions, it would, I am sure, be esteemed by many bee-keepers:—1. What are the dimensions of "drawer" used, more especially the depth? 2. Has the drawer an opening for the flight of bees in addition to the one in front of hive? 3. How is the drawer connected with brood-nest? Is the floor board over drawer quite open, or do the bees pass to and fro by slots?—L. W., *Lowestoft, January* 25.

BRITISH COLUMBIA.

THE PROSPECTS OF BEE-KEEPING IN THE COLONY.

[2404.] Will any reader of the B.B.J. kindly say what prospect of keeping bees and what is the price of honey in the above-named colony? The inquirer would be glad of any information on the subject, as he thinks about going there, and wishes to add to his income by bee-keeping. I am a large bee-keeper in England. The Editor has my address.—EMIGRANT, *January* 24.

EARLY POLLEN-CARRYING.

[2405.] On Sunday last, the 19th inst., I saw several bees come home loaded with pollen. A neighbour of mine also observed the same in his apiary. We have a field of charlock near in bloom, the frost not having been severe enough to kill it. I have no doubt the pollen was from it.—E. C. R. WHITE, *Woodford Mills, near Salisbury, January* 22.

HUMBLE BEES.

(*Concluded from page* 37).

COMPOSITION AND SHAPE OF HONEY CELLS.

Andrena makes none.

Bombus, Pouch-maker.—Honey cells rarely constructed, the honey being stored in the old cocoon-cells.

Bombus, Pollen-storer.—Cylindrical cells of wax are constructed. When several of these are placed side by side they may sometimes take a rude hexagonal form. Cocoon-cells are also employed.

Apis.—Cells are of wax, circular in form when commenced, afterwards hexagonal.

Males and females with *Andrena* do not return to the nests in which they developed.

Bombus.—Males remain two or three days and then leave the nest not to return again as a rule. Queens pass in and out of nest for several days (sometimes weeks) and then leave for good.

Apis.—Males pass in and out of hive all their life (normally). Queen goes out once or twice and remains at home rest of life.

LONGEVITY AND FERTILITY OF THE FEMALE SEX.

Andrena.—Perfect female is worn out usually after three weeks of active life; she lays on an average about half-a-dozen eggs.

Bombus—Queen lives twelve to thirteen months (five months active); worker lives four to six weeks. Queen lays some 200 to 400 eggs.

Apis.—Queen lives three or four years (very active the greater part of the time); worker lives two to eight months. Queen lays 1,500,000 eggs (Cheshire).

By the observant, instances such as these, of the curious intermediary position that the *Bombi* hold between the "solitary bees" and the "socials," might be multiplied *ad lib.* By studying them we can trace the early phases of the instincts of our honey gatherer, and possibly explain or assist in explaining not a few of the most remarkable of them. Amongst these latter the mysteries of the "royal jelly's" action may be classed. *Bombus* rears both queens and workers as well as *Apis*, but I have observed no excess of jelly-like matter surrounding the queen-larvæ of the *Bombi*. What then produces the queen? Is there a difference between the eggs? With *Apis* it has long ago been proved that the queen

and worker eggs are identical in every way. A few independent and careful experiments on the *Bombi* next summer by those interested in these matters should settle this question, as well as possibly throw light on several obscure details on bee-life.

To me it is always a strange thing that intelligent and practical bee-keepers should care so little for the wild bees. What is worse some look on them with a jealous eye and would even destroy the nests, supposing from ignorance that they rob their bees of their honey. In the coming season let those who have carried on hostilities with the despised "humble dumbledore," alter their views and rather try to investigate through its wild cousins the conditions that have produced the useful insect that has been specially given into our charge.

To would-be observers, I may mention that *Bombas agrorum* (formerly named *muscorum*), the common yellow carder bee, the nest of which is so commonly found in hay-fields and on grassy slopes, is one of the best examples of a pouch-making humble-bee, and the irascible *B. terrestris psithyrical* form (formerly *B. terrestris*)—which is sketched below, and is

Bombus terrestris.

known from the true *terrestris*, in that it has a tawny instead of a white tail—is a good species to study as a typical pollen-storer. *B. lapidarius*, a red-tailed species, abundant in the eastern counties, is also a good instance of the latter kind.

Trigona carbonaria, lately described in the B.B.J., and the equally curious species of the genus *Melipona*, come between *Bombus* and *Apis*. By reading the account given, (p. 437, vol. xxiii.), this will at once become apparent. For instance, the combs are stated to be horizontal, the nest is enlarged in an upward direction, and the honey is stored in special cells which are outside of the nest proper; in these particulars the *Trigona* leans towards *Bombus*. On the other hand, the cells are hexagonal when completed. Propolis is mentioned, a product not employed to my knowledge by the *Bombi*, and the colony is spoken of as swarming, an act never undertaken by any species of *Bombus*; which details point to the *Apis*-like nature of these little bees. I trust Mr. Cowan will let us know how his little colony has stood the winter.—W. L. SLADEN, *Ripple Court, Dover.*

LECTURE ON BEE-KEEPING.

On January 21, under the auspices of the Manchester and District Bee-keepers' Association, in conjunction with the Droylsden Technical Instruction Committee, a very successful lecture on bee-keeping was given by Mr. Hyde, of the M. and D.B.K.A., in the Educational Institute, Market-street, Droylsden. Mr. Knowles, President of the Association, occupied the chair. The lecture was illustrated by lime-light views, the lantern being worked by Mr. Whittaker of the Manchester Photographical Association. After the lecture, votes of thanks were accorded to those who had assisted in making the meeting so thoroughly interesting and enjoyable.—P. J. TURNER, *hon. sec. Crofts Bank-road, Urmston, January 25.*

Queries and Replies.

[1416.] *Do Droneless Hives Swarm?—Paring down Combs—Robbing.*—1. Is it a settled fact in bee-keeping that no colonies will swarm, however populous, which are without drones? 2. Some spare combs I have in hand ready for next season are rather out of shape—*i.e.*, they project beyond the woodwork of the frame, bulge out in places, and are turned up at the bottom corners. This interferes with spacing, and gives the opportunity for drone-comb being built. During this last season I had drone comb built on the top of worker cells—that is, worker comb was covered up and drone comb built right on the face of worker cells. I wish, therefore, to know if I shall be right in shaving down the faces of any combs out of shape to a level surface even with the woodwork of the frames? and how can I best shave or cut them? What sort of knife must be used? Some ten days ago my bees had a nice fly, the day being fine and mild, and they enjoyed themselves; but, on looking at the hives so late as four o'clock, I found the bees of one stock making constant journeys to another hive ten yards away. They were evidently carrying off the stores. The next day was cold, and continued so for some days, consequently all was quiet; but on the 18th and 19th the bees again had a good fly, and I observed the same stock again robbing the same hive just as before, and continued until darkness stopped them. The attacked stock have so far made no defence at all, and seemed quite at home with their visitors. Both lots have naphthaline on floors, put in when made up for winter. Perhaps having the same scent may account for no defence. Both stocks have ample stores. Can you give me any idea why robbing should go on at this time of year, and how I can prevent it? It looks to me that to put carbolic cloths on in the present cold weather would keep out

bees too long, as I notice they do not fly for much over a quarter to half a minute before they go back to the hive; any stopping out longer get chilled, and never get back at all. Your kind replies will be esteemed.—WM. C., *Blackburn, January* 20.

REPLY.—1. We have never heard of a droneless colony swarming, and, personally, we are under no uncertainty as to its being a "settled fact" that practically a natural swarm will never issue under such conditions. The only chance of an attempt at swarming that we can imagine possible would be caused by the effect of excitement on the bees when large numbers of drones from other hives are on the wing on a hot day. 2. Yes, quite right, and so long as the septum or midrib of the comb is in the centre of the frame, there need be no difficulty in paring down the cells to proper depth by using a knife sharpened to a keen but somewhat rough edge. 3. We rather fancy the robbed stock will be queenless, and should advise an early glance at the combs to settle the point.

[1417.] *Keeping Bees out of Conservatories. Open-air Feeding.*—I have eight hives of bees, standing 3 ft. in front of a large disused conservatory, the doors and parts of which fit badly, admitting bees by the score, and they die inside! 1. What can I place in the said conservatory to produce such a smell during spring and summer as to frighten the bees? Carbolic acid is no use, as it will not evaporate, and I cannot be stoving the place constantly; I am also neither able to stop all the cracks nor move the hives to another position. 2. In place of spring feeding in March by the usual method of giving candy or syrup inside the hive, how would it answer—provided weather was reasonably fine and open—to place a rapid (Canadian) type of feeder containing 10 lb. thick syrup in the orchard or near where the hives stand; would the bees take it? If so, it would save disturbing the packing inside hives until warm weather?—B. W., *Kirkby Stephen.*

REPLY.—1. There is surely something inside the conservatory attractive to the bees, and if this be so no fumigating, not continuous, will keep them outside. Any attempt to "frighten" bees is entirely futile, and so we cannot advise a remedy for the trouble other than covering the cracks, &c., with some bee-proof material. 2. Wholesale open-air feeding is not new by any means, but to be successfully carried out must be carefully done. Then the proximity of bees belonging to neighbours must be considered. The main points to be borne in mind are, however, (1) to do the "feeding" at a sufficient distance from the apiary to avoid "upset" among the hives; (2) to only feed during the sunniest and warmest part of mild days; (3) to give the food slightly warm and *very thin*, not "thick," as proposed; (4) to remove the feeders each day when the stipulated feeding-time has passed; and (5) to medicate all food so given. It may be taken for granted that open-air feeding does not "pay" if the bees of neighbours are sufficiently close to make it a free feast.

[1418.] *Space below Frames in Surplus Chambers.—Brood Foundation for Extracting Combs.*—1. What is the proper distance between the frames of surplus chambers and those of the body-box? 2. Is it advisable to use brood (stock) foundation for frames intended for extracting purposes?—"DRONE," *Tenbury, January* 23.

REPLY.—1. Anything above a bee-space is a disadvantage. Have the space as near ⅜ in. as possible. 2. Yes.

THE "LITTLE PEOPLE."

In "Good Hunting," written by Mr. Rudyard Kipling, and published in the *Pall Mall Gazette*, July 29 and 30, 1895, there is a most graphic description of the wild bees of the Indian jungle, and how they compel all animals and man to keep at a respectful distance. The hero of the tale is a wild boy of the woods, nourished when a babe by a she-wolf, and when he grows up he fights the wolves' battles. We can only print a very short paragraph of the story, which specially speaks of the bees, or, as they are termed, the "Little People."

A letter in which we asked leave to print this extract followed the author to the United States. We have to thank him for kindly writing and granting us permission.

"They sleep," said Kaa. "Hathi will not turn aside for the Striped One. Yet Hathi and the Striped One together turn aside for the dhole, and the dhole they say turns aside for nothing. And yet for whom do the Little People of the Rocks turn aside? Tell me, Master of the Jungle, who is the Master of the Jungle?"

"These," Mowgli whispered. "It is the Place of Death. Let us go."

"Nay, look well, for they are asleep. It is as it was when I was not the length of thy arm."

The split and weatherworn rocks of the gorge of the Waingunga had been used since the beginning of the Jungle by the Little People of the Rocks—the busy, furious, black, wild bees of India; and, as Mowgli knew well, all trails turned off half a mile away from their country. For uncounted centuries the Little People had hived and swarmed from cleft to cleft and swarmed again, staining the white marble with stale honey, and made their combs tall and deep and black in the dark of the inner caves, and neither man nor beast nor fire nor water had ever touched them. The length of the gorge on both sides was hung as it were with black shimmery velvet curtains, and Mowgli sank as he looked, for those were the

clotted millions of the sleeping bees. There were other lumps and festoons and things like decayed tree-trunks studded on the face of the rock—the old comb of past years, or new cities built in the shadow of the windless gorge—and huge masses of spongy, rotten trash had rolled down and stuck among the trees and creepers that clung to the rock-face. As he listened he heard more than once the rustle and slide of a honey-loaded comb turning over or falling away somewhere in the dark galleries ; then a booming of angry wings and the sullen drip, drip, drip, of the wasted honey, guttering along till it lipped over some ledge in the open and sluggishly trickled down on the twigs.

There was a tiny little beach, not 5 ft. broad, on one side of the river, and that was piled high with the rubbish of uncounted years. There lay dead bees, drones, sweepings, stale combs, and wings of marauding moths and beetles that had strayed in after honey, all tumbled in smooth piles of the finest black dust. The mere sharp smell of it was enough to frighten anything that had no wings, and knew what the Little People were.

He had slipped down the tree-trunk, and headed like the wind in bare feet for the Bee Rocks, before the dholes saw what he would do.

They gave one deep howl, and settled down to the long, lobbing canter that can, at the last, run down anything that lives. Mowgli knew their pack-pace to be much slower than that of the wolves, or he would never have risked a two-mile run in full sight. They were sure that the boy was theirs at last, and he was sure that he had them to play with as he pleased. All his trouble was to keep them sufficiently hot behind him to prevent them turning off too soon. He ran cleanly, evenly, and springily ; the tailless leader not five yards behind him, and the pack stringing out over perhaps a quarter of a mile of ground, crazy and blind with the rage of slaughter. So he kept his distance by ear, reserving his last effort for the rush across the Bee Rocks.

The Little People had gone to sleep in the early twilight, for it was not the season of late blossoming flowers ; but as Mowgli's first footfalls rang hollow on the hollow ground he heard a sound as though all the earth were humming. Then he ran as he had never run in his life below, spurned aside one—two—three of the piles of stones into the dark sweet-smelling gullies ; heard a roar like the roar of the sea in a cave, saw with the tail of his eye the air grow dark behind him, saw the current of the Waingunga far below and a flat, diamond-shaped head in the water ; leaped outward with all his strength, the tailless dhole snapping at his shoulder in mid-air, and dropped feet first to the safety of the river, breathless and triumphant. There was not a sting on his body, for the smell of the garlic had checked the Little People for just the few seconds that carried him across the rocks. When he rose Kaa's coils were steadying him, and things were bounding over the edge of the cliff—great lumps, it seemed, of clustered bees falling like plummets ; and as each lump touched water the bees flew upward and the body of a dhole whirled downstream. Overhead they could hear furious short yells that were drowned in a roar like thunder—the roar of the wings of the Little People of the Rocks. Some of the dholes, too, had fallen into the gullies that communicated with the underground caves, and there choked and fought and snapped among the tumbled honeycombs, and at last, borne up dead, on the heaving waves of bees beneath them, shot out of some hole in the river face, to roll over on the black rubbish heaps. There were dholes who had leaped short into the trees on the cliffs, and the bees blotted out their shapes ; but the greater number of them, maddened by the stings, had flung themselves into the river ; and, as Kaa said, the Waingunga was hungry water.

Kaa held Mowgli fast till the boy had recovered his breath.

"We may not stay here," he said. "The Little People are roused indeed. Come!"

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

C. CARRETT (King's Lynn). — Having no personal knowledge of bee-keeping in the colony referred to, we regret our inability to assist you. It is, however, probable that the note of inquiry on another page may cause some helpful information to be forthcoming.

JNO. CUNDLIFF, JUN.—We are obliged for your amusing parody, but it is scarcely suitable for publication in our pages.

DONALD MCGEACHY (Oban).--*Glazing Sections.* Our contributor, Mr. Wm. Woodley, will send you a sample section ready glazed as a pattern, and 100 strips of the lace-paper used in glazing for 1s., post free. This will be the best "lesson" in glazing sections you could have.'

H. WILCOX (Talywain, Mon.). — We are obliged to our correspondent for further particulars regarding his house apiary mentioned on page 6 of B.J. for January 2. The sketch received makes clear what we did not quite understand from first sketch sent.

E. S. R.—*Medicated Bee-food.*—1. Bees will take syrup medicated with naphthol beta just as freely as if not medicated at all. No need, therefore, to pour it in the combs as with phenolated syrup. 2. Comb sent is badly affected with foul brood.

Replies to L. H. S., R. S. P., *and* H. SEAMARK *in our next.*

Editorial, Notices, &c.

USEFUL HINTS.

Weather.—Still no frost worth mentioning; on the contrary, early flowers are springing, and strong stocks of bees breeding nicely. Not that there is anything to be especially pleased at in this so far as the bees, beyond the indication it affords that such stocks *are* strong, and their queens safe. For the rest, it is yet too early, and the weather of the next three months too uncertain to say that we may not be wearying with anxiety for the safety of the tender larvæ through a sudden spell of hard frost.

Where extensive brood-rearing has been induced by abnormal mildness very early in the year, it generally augurs an anxious time for the bee-keeper during April and May. The probability of such untoward conditions arising is, of course, minimised where no early feeding has been necessary; but we must caution those anxious to begin stimulating, not to do so in cases where stores are known to be fairly plentiful. This caution is especially needed in the case of hives not too strong, but known to have very prolific queens.

Introducing New Blood Among Bees.—The value or otherwise of introducing from time to time new blood among the bees in old-established apiaries has been discussed in past numbers of the B.J. But it is not quite clearly established as a valuable and important item in good management with those desiring to keep their bees up to "full points" in honey production. We say this in view of the frequency with which some apiaries, long established, become less profitable after the lapse of years; and it will generally be found that in such cases the special feature in bee-management with which we are now dealing is never taken into account at all. Personally, we attach considerable value to the practice of introducing new blood among bees; when it can be done with perfect safety, so far as the risk of infection from foul brood. For many years, when located in the north, we regularly, each autumn, introduced more or less young queens from a distance among our bees with excellent effect. In those days driven bees could be had for the asking and driving, and the experienced bee-keeper had little difficulty in securing young queens bred during the same summer, by reason of the cottager skeppist so frequently "taking up" swarmed stocks for the honey. In these later days it is less easy, we admit, to get what we want in this way, but a custom could be established among bee-keepers located a few miles apart in the way of

Exchanging Virgin Queens, and thus introducing new blood with perfect safety from risk of infection. During the swarming season surplus virgin queens and ripe queen-cells are not seldom quite plentiful in apiaries where a dozen or so stocks are kept, and with a little pre-arrangement could be "exchanged," just as amateur gardeners do with plants. Not only would this be interesting and helpful work for friendly bee-men, but it affords good practice in queen introduction. As to the question of the value of the introduction of new blood, there is no reason to suppose it would not be as valuable among bees as it is found to be with all kinds of stock-raising.

Old Brood-combs for Honey Storing.—As a rule—and for obvious reasons—we avoid, whenever possible, making comments on the opinions expressed in our pages by correspondents whom we regard as regular contributors. We also, in a measure, act thus because readers are every week informed, in a paragraph at the head of the correspondence column, that the Editors do not hold themselves responsible for any opinions expressed therein. But we cannot very well avoid saying a word here with regard to a paragraph in a communication which appeared in our issue of January 23 (2390, p. 35). In this the writer (Mr. S. Simmins) deals with the reply made to a query in B.J. of January 2 (1405, p. 10) wherein we express our very decided opinion that "honey stored in old brood-combs will be deteriorated in quality" compared with that stored in combs uncontaminated by what some consider the rather objectionable larval contents of cells in which successive generations of bees have been reared. To this Mr. S.

took exception, and we were rather surprised to see his opinion "endorsed" last week by our correspondent Mr. W. Woodley in "Notes by the Way" (2396, p. 43). However, in order that our readers may labour under no confusion or uncertainty as to the opinions of the Editors of this journal on the point at issue, we now desire to emphasise the views expressed in the reply given on page 10, and here reiterate them to the letter.

It would be little less than hypocrisy to say that we do not imagine some value will be attached to the long experience both Editors of this journal have had in producing, exhibiting, and judging honey; or that we do not esteem very highly the apparent confidence placed in our opinion from the rather extensive "practice" in judging we are honoured with. In this way, then, we would, in the most friendly way, remind some who differ from us that it is a well-known dictum in jurisprudence that evidence must be weighed according to the amount of knowledge possessed by those tendering it. Judged by this standard, we do not know exactly how to appraise the opinion of bee-keepers who, "in practice," have "not found any difference" between honey stored in old brood-combs and that extracted from clean, white, virgin combs. Those who think thus, may not have paid particular attention to the production of high-class extracted honey for show as well as sale purposes. We *have* done so; in fact, during our exhibiting days, it was our speciality, and we still claim to know what constitutes a good sample.

There may be a measure of appropriateness in these observations appearing in this column; anyway we venture to deem it a "useful hint" to readers in advising them to bear our words in mind when working for extracted honey—especially that for exhibition. They will gain "points" in the eyes of any competent judge by doing so.

BRITISH BEE-KEEPERS' ASSOCIATION.

It is particularly requested that from this date all communications intended for the British Bee-Keepers' Association should be addressed to the Secretary, Edwin H. Young, 12, Hanover-square, London, W.

MEETING OF JOINT-COMMITTEE OF MEMBERS OF B.B.K.A. AND COUNTY COUNCIL DELEGATES.

A meeting was held on January 31, 1896, at 2.30, in the "Council Room" at No. 12, Hanover-square, W., when the following gentlemen were present:—Thos. W. Cowan (chairman), Hon. and Rev. Henry Bligh, R. T. Andrews, H. W. Brice, W. Broughton Carr, Major Fair, J. Garratt, W. H. Harris, C. Hooper, W. Lees McClure, Walter Martin, J. H. New, Montague Sharp, E. D. Till, Wm. Welch, J. M. Hooker (ex officio), and E. H. Young, Secretary.

The Chairman opened the proceedings by reading the report of the Sub-Committee appointed by the Joint-Committee of the British Bee-keepers' Association and County Council delegates.

The Chairman prefaced his remarks by expressing his regret that since their last meeting a gentleman who took an active interest in the subject before them, Mr. Meggy, of Chelmsford, had died suddenly, his decease occurring about ten days ago. He was sure they would all feel the loss of so valuable a member. The Sub-Committee, having met on the 8th inst., and prepared their report, together with a draft embodying the salient points of a Bill they thought it desirable should be introduced into Parliament, had, on the following day, sought and obtained an interview with Mr. Elliott, the Secretary of the Board of Agriculture, who asked for some time to consider their proposals. Accordingly, the Sub-Committee met the Secretary of the Board again to-day. There were present besides Mr. Elliott and Major Tennant, of the Board of Agriculture, Mr. Carr, Mr. Harris, Mr. Till, and myself, of the B.B.K.A.; Mr. W. Martin, Lindsey Division, Lincolnshire C.C.; Mr. Welch, Surrey C.C.; and Mr. Lees McClure, Lancashire C.C. Mr. Elliott, whilst quite in sympathy with them in wishing for legislation against foul brood for the benefit of bee-keepers and bee-keeping—which he regarded as an important industry—thought that they should first try to make the House of Commons better acquainted with the subject, and for that purpose should endeavour to obtain the introduction of a tentative measure by some private member, so that the matter could be discussed in the House. He further suggested that, instead of the penalty in clause 5, the Act should be put in force at the instance of two or three bee-keepers, instead of a single person. He pointed out that, in his view, instead of the Board of Agriculture being the authority to enforce the measure it would be far better for the County Councils to do so. Mr. Elliott also recommended that the Bill should be an adoptive measure and not compulsory; this he thought would give it a better chance of success; adding that these were the views of his Department to-day, but that they might change at any time, and he only spoke for the present.

He told the Sub-Committee, moreover, that he had consulted Mr. Long, the President of the Board, who, likewise, was in full smpathy with their objects, but could not during the present session, undertake to bring in any Bill thereon; but that, if it were left to a private member to introduce, the Board would give any assistance in its power. He (the Chairman) had now given the Joint Committee a full account of the proceedings up to date, and having the Sub-Committee's Report and Suggestions before them, it was their place now to consider and discuss the present stage of the question, and express their opinions as to future action.

Mr. W. Lees McClure (Lancashire C.C.) thought Mr. Elliott's suggestion that two or three bee-keepers should be necessary—instead of one—to put the Act in force was a good one; it was certainly not advisable that power be given to a single interested person—maybe not a bee-keeper at all—to vent his ill-feeling on a neighbour perhaps; besides, such provision would do away with the necessity for clause No. 5, under the head of offences. It would be quite easy for persons who did not like bees near them to make an unfounded complaint; an evil which the proposed change would prevent. With regard to Mr. Elliott's views as to a tentative measure, he ventured to think that the best plan would be to go to the County Councils' Association, and ask that body to draft the Bill. They would thus be enabled to learn the feeling prevailing among County Councils throughout England on the subject.

In reply to a remark of Mr. Welch, the Chairman said the proposal was that the Board of Agriculture should appoint different bodies having power to put the law in force, or that the County Councils should have that power.

Mr. Harris was of opinion that the Act should be put in force at the instance of two or more bee-keepers or persons interested. It occurred to him that the clergyman of the parish would naturally be very much interested in his parishioners who kept bees, although he might not keep them himself, and he would be a very suitable person to join with cottagers or others in putting the law in force, the clause making it obligatory that there should be at least two complainants.

Mr. Montagu Sharpe (Middlesex C.C.) said: He was unfortunately unable to be present at their first meeting, though asked to attend. However, he had made a short report to the Technical Education Committee of the Middlesex County Council, of which he was chairman, on the question of obtaining a grant in favour of lectures and instruction in bee-keeping. The question now appeared to turn on the desirability of getting an Act of Parliament passed, and this had been referred to the committee, which dealt with the diseases of animals. While he would be glad to assist in any way that he possibly could, he thought it better to tell the meeting his views on the proposed legislation. For some years he had had a good deal to do with the regulations regarding swine fever, rabies, and pleuro-pneumonia, which latter disease was happily becoming less prevalent; and it seemed to him that if anything could be done in the matter under consideration, there must be some alteration in the way they were going to work. To ask County Councils to give compensation for destruction of diseased hives was, he submitted, the wrong way to go to work. With some experience of passing a Bill through the Houses of Parliament, he knew the difficulty of it, and ventured to suggest that the Act should certainly be made adoptive, so that its powers should be put in force by the Board of Agriculture at the request of any County Councils wishing to adopt it within their area. Under the Wild Birds Act, the Home Secretary had power to put in force certain regulations regarding particular birds and their eggs at the request of any of the various County Councils, and that measure was working very well. He thought their objects might be carried out much more simply than was proposed. If they turned to the Contagious Diseases (Animals) Act of 1894 they would find provisions there dealing with the diseases of animals, which might be very well applied to the case of bees. He had gone through the Act, and found that in section 19 to 22 they had everything needed to enable them to carry out what was wanted. Besides, it would be better to ask for something extremely simple and based on the lines of preceding legislation, without all the details set forth in the paper on the table. Why not ask for a Bill that would enable the Board of Agriculture to put in force certain powers that they already possessed, and further, go on to say that these be only applicable where the local authority has asked that they shall exist? He knew that in many counties there would be opposition immediately they were asked to spend money, and the Bill would consequently not pass; whilst if the proposal were carried out in the way he had suggested (and the whole thing might be done in six lines or thereabouts) he believed there would be no opposition. He would also recommend that the Bill be presented first in the House of Lords, not in the Commons, after which it would secure a much better hearing in the Lower House. In conclusion, he would be very glad to assist and ask his committee to accept the Bill if they would make it adoptive, and frame it on the lines he had proposed. All that need be done was to ask that the powers which had already been sanctioned might be made to apply to foul brood. With thirty or forty county authorities to study and please, the less contentious the measure the greater probability of success.

The Chairman observed that with regard to compensation, it was suggested that the Board of Agriculture should be asked to bear this expense, not County Councils.

Mr. Montagu Sharpe, in reply, said that animals which had been slaughtered under the Contagious Diseases Act were valued and paid for out of the rates; but it would raise immense opposition to ask for that to be done in the case of bees.

Mr. Lees McClure said they did not want the County Councils to pay the compensation; they wanted the Board of Agriculture to do it. The assistance of the County Councils was required to get the Bill through Parliament, the B.B.K.A. not having sufficient funds to bear that expense. The County Council can draft a Bill without any expense at all, but if the B.B.K.A. were to get the Bill drafted the cost would be prohibitive.

Mr. Montagu Sharpe agreed that if they could get a member to take it up the cost would be very trifling. Being himself a member of the County Councils' Association, he need hardly say that he would be very glad to render any help he could when the consideration of the matter came before them.

The Chairman said that their principal reason for asking the aid of County Councils was because some of those bodies were already making grants in favour of bee-keeping, and were consequently more interested in that industry than any other local authority, and desirous that their money should not be wasted. Part of the work of the Technical Instruction Committees was to spread a knowledge of bee-keeping with regard to foul brood.

Mr. Welch feared the difficulty they would have to meet was that the Board of Agriculture would not take up the position with regard to foul brood that it had adopted in respect of other offences.

The Chairman remarked that in a great many counties there were Borough Councils, and some of these would probably decline to take up a proposal of this sort if the Bill were made adoptive. There would be an instance of the county accepting it while the boroughs declined to do so.

Mr. Martin (Lindsey division, Lincolnshire County Council) said they had a similar instance in his county of Lincs. as regarded rabies. There was, he thought, great risk of some counties adopting the Act while boroughs in the same county would either decline to do so or allow it to fall into disuse.

Mr. Harris thought it was their duty to give special attention to the very strong recommendations received from two quarters that the Bill should be made adoptive. He felt that half a loaf was better than no bread, and it was better to proceed on lines that experience advised. They would fail altogether by asking too much.

Mr. McClure moved the adoption of the report of the sub-committee, and wished to lay special stress on the last paragraph of it, as follows:—"Without being pledged to any line of action, your sub-committee suggest re-appointment, with powers to confer with the County Councils' Association, with the view of getting that body to draft and take charge of a measure on such lines as your joint-committee may generally sanction at their meeting to-day."

Mr. Martin seconded the resolution, observing that adoptive Acts were frequently a dead letter.

The Chairman supposed that the committee would have to suggest to the County Councils' Association what was wanted in their opinion. At any rate, the meeting had had definite advice from two quarters that it could not possibly ignore. He (the chairman) would be quite satisfied so long as they did not now pledge themselves as to whether the Act shou'd be adoptive or compulsory.

Mr. Carr thought that if they were to look to the County Councils' Association as their sheet-anchor in this matter, it would be quite safe to leave the details in their hands.

Mr. Till agreed, saying the whole subject would go before the County Councils' Association, strengthened with the information obtained that day from Mr. Elliott, and it was not practicable to do more.

Mr. Lees McClure said that if they laid their suggestions before the County Councils' Association, unpledged as they were to any particular course, that Association would make the Bill an adoptive one if they thought it right to do so.

The resolution was carried unanimously.

After an enquiry by Mr. Welch as to the number of County Councils who would be called on to help to defray the expenses being incurred, the several representatives of the County Councils present agreed to recommend to their Councils to make a *pro rata* contribution to defray incidental expenses connected with meetings and printing.

Mr. Garratt supposed that the points raised by Mr. Sharp relative to the Contagious Diseases (Animals) Act had been looked into. Probably they had been used as a guide in forming the sub-committee's scheme.

The Chairman advised that a report of that meeting should be sent to every member of the County Councils represented, and to ask their views on it; also a copy to each member of the joint-committee. This was agreed to, and the proceedings closed.

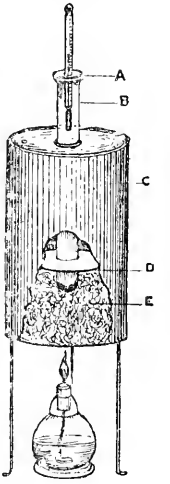
ABOUT OUR BEES.

BY HENRY W. BRICE.

(*Continued from page* 33.)

Many substances are used to adulterate bees-wax, such as paraffin-wax, ceresin or earth-wax, Japan-wax (black, yellow, red and white), carnauba-wax, spermaceti; then there is the wax of an insect, called *Coccus sinensis*, stearine; and other substances such as resin, &c. The melting point, however, of most of these products is lower than that of pure bees-wax, some liquifying at 90 degs. fahr. Much ingenuity has been exercised to find out

simple method for testing doubtful samples. But it is evident that any of the above adulterants if blended with the pure product of the bee, would alter its constituency, both as to its tenacity, melting point, density, and specific gravity. To those versed in chemistry, any of the above-named points may be taken upon which a test could be made, but to the uninitiated the task is not so easy. In my own experiments on the subject I certainly prefer—whilst taking into consideration the general appearance of any given sample—the melting point, as affording a ready test with results sufficiently accurate for ordinary purposes, and to this end I recently constructed a simple little apparatus (described in the *Bee-Keepers' Record* for January last), and as shown in the illustration here given, which to a great extent explains itself. C is an ordinary self-opening 1 lb. tin with a round hole cut in the lid to take the glass test tube, B D, a metal guide with corresponding hole to that in the lid; the tube slips through this, and so retains its upright position; E, a wad of cotton to raise up the tube from the bottom of the tin. A is a thermometer having a collar of cork or rubber, so that it may be suspended in the test tube. Three strong wire legs are necessary to be soldered to the tin so that a spirit lamp may be set below. The thermometer costs from 2s., and the spirit lamp 1s., but beyond these two items the cost of the appliance is but trifling. The thermometer should register at least 200 degrees Fahr. I prefer a self-registering clinical thermometer. The tin is filled three parts full with water, and the test tube also with the same liquid to within half an inch of the top. When the thermometer is placed in position, light the lamp. Roll the specimen of wax to be tested into a ball, large enough to fit loosely when placed in the tube. The act of replacing the thermometer (temporarily removed to allow of inserting the ball of wax) carries the ball down below the bulb. Watch the scale of thermometer, and when the first globule of wax rises, at once note the temperature. This will indicate within a degree or two the melting-point. By allowing the water in tube to heat slowly, accurate figures are obtained. Old or dirty wax, or that having undergone repeated meltings, will have its melting-point raised several degrees—*never lowered*. On the other hand, nearly all adulterants lower the melting-point in a marked degree. The production of wax by bees entails a large consumption of honey and pollen, or sugar equivalents; some writers declaring that 20 lb. of honey is necessary to produce 1 lb. of wax. In my opinion, half that amount is nearer the mark. The colour of wax is in no way dependent on that of the honey from which it is formed, but is due almost entirely to the pollen used, which forms an important element in its production.



Pollen.—This is the fertilising dust-like element of plant life consisting of minute granules varying in size, which fill the cells of the anther, and enclosing a fluid containing molecular matter. The granules referred to are generally produced in forms yielding pollen chiefly of different shades of yellow, but from some plants pollen is gathered of all shades, from light grey to almost black, or from pale orange to dark brown or red. In no case, however, is it green. As the anther opens, pollen is available to the bees, and by them carried to the hive in the form of little pellets packed away in hollows formed in the outer surface of the hind legs of the worker bee. These hollows are known to bee-keepers as "pollen baskets." Pollen is largely used by the bees during the breeding season, and an early supply is to them a desideratum, as affording nitrogenous food for the larvæ. It is stored in worker cells, and when not required for present use is frequently covered over with honey to exclude the air and so preserve it until wanted.

Propolis.—This is a species of glutinous resin of aromatic odour, in colour from reddish brown to nearly black, collected (as Huber discovered) from the buds of plants, and carried home by bees in the pollen-baskets before mentioned. Its use is to stop all cracks and crannies within the hive, to fix down any loose parts, such as quilts, &c. The bees also seal up or cover over any foreign substance which they are unable to remove from the hive. It is never stored in the cells as is honey and pollen, consequently it is collected just as wanted and only in such quantity as the necessity of the case demands. The main portion of this substance is collected at the close of the season apparently for the purpose of making "things" snug for the winter. At this time every aperture inside the hive by which air is admitted is hermetically sealed with propolis, and in some countries the bees literally justify the derivation of the word—*pro* (before) *polis* (a city)—by using it for the purpose of reducing the size of the hive entrance (when too large) in order to exclude enemies such as the death's-head moth.

VI.—BEE APPLIANCES.

This portion of my subject is a difficult one to deal with, inasmuch as there is sure to be some divergence of opinion as to the best form of appliance to use, whether hive or any of the smaller items constituting the bee-keeper's stock of bee-goods; so let me at once say to those who care for my advice: Be content with such appliances as you have tried and found to work well, and do not run after

every new thing brought out because it happens to be *new*. Make sure, first of all, that the new contrivance, if not better, is no worse than that you already have. Then get *one* and see how it works; time enough afterwards to go to greater outlay. I do not intend to imply preference for any particular type of article dealt with, my object being to deal with broad principles which, after years of hard work, have commended themselves as essential to the best results.

Hives.—A hive made to hold the movable Standard frame is undoubtedly the only one worthy of consideration. Good hives of this description are obtainable from most makers, and in deciding the class or type of hive to adopt, I should recommend the following points to be considered: In all cases make a personal inspection of the hive before deciding on the kind to order; see that only well-seasoned pine is used; that it is rigid and well put together, that it has an inner brood-chamber and outer-case; that the brood-chamber will hold ten Standard frames and a dummy board, and that all its parts are interchangeable. Whether the frames hang parallel or at right angles to the entrance is very much a question of use. I have worked both ways, and whilst five years ago I thought the parallel position was about perfect, I have proved to my own satisfaction that the right-angled method is far the best; for not only do the bees winter with me better, but the danger, and a serious one too, of the space beneath the front frame, or may be the dummy board, being during the winter blocked with dead bees, and the colony suffocated in consequence, is entirely avoided. I, therefore, advise either a hive in which the frames are hung at right angles or one in which the inner, or brood chamber, may be placed on floor-board with the frames in that position if desired. All hives should be capable of being tiered up to any extent. Hinged roofs I should not tolerate, preferring a light simple roof covered with zinc, unless the best seasoned pine is used.—*Thornton Heath.*

(*To be continued.*)

Errata.—The symbol at beginning of the third paragraph on page 33 should have been printed '96, and at the end of the last paragraph, after the words "sulphuric, nitric, &c.," the words "are sometimes used," were accidentally omitted.—H. W. B.

WOTTON-UNDER-EDGE B.K.A.

The annual social gathering of members and friends of the above association took place on January 30. About seventy sat down to tea. After tea the annual report was read and adopted. The after proceedings included an exhibition of lantern slides on "Bees and Bee-keeping," which was most instructive and much appreciated. The rest of the evening was very pleasantly occupied in music, recitations, &c. We were sorry that, through illness, two of our most hardworking members Messrs. Brown and Hulance, were unable to be present.—*Communicated.*

HOWDENSHIRE BEE-KEEPERS' ASSOCIATION.

On January 24, a meeting was called for the election of officers. Mr. Hall, of Weham Bridge, was elected president; Mr. White, of Howden, vice-president; Mr. F. Agar, hon. treasurer, and G. Remmer, hon. secretary. The following constituting the working committee:—Messrs. Andrew, Wildman, Walker, Balard, Palmer, and G. H. Holland. We start the year with every prospect of success, several new members having joined. Our association also includes among its members some very enthusiastic lady bee-keepers. We put a free copy of BEE JOURNAL into the hands of members weekly, and the *Record* monthly.—G. REMMER, *East Yorks.*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*" *(see 1st page of advertisements).*

NOTANDA ET INQUIRENDA.

IS QUEEN-EXCLUDER ZINC NECESSARY?

[2406.] I see I owe an apology to "A Worker" (2397, p. 45), and tender it most sincerely. My last year's B.B.J. was being bound up when I wrote. I thought I had worked out the right reference from the letter of another; but I was mistaken, and ought to have referred to the letter of Mr. Richard Williams (2351, p. 524). I am obliged to "A Worker" for pointing out the slip, which I regret.

Swarm Prevention.—I shall look with much interest to the expressions of opinion which may be called forth by Mr. Simmins' open declaration of 'war against excluder zinc. Will he kindly tell us *how* he keeps the queen out of sections and shallow frames placed above the brood-nest in ordinary hives? I tried doing without excluder zinc one year, and I shall never forget the misery of it! When I came to take off sections and frames I certainly obtained a surprising return; but

I had to cut out and get rid of worker and drone grubs and even queen cells, and it was a horrid mess. I could only use the honey from these spoiled combs—and they were many—to feed up the bees. On the other hand, the working with excluder zinc is clean and pleasant, and it will take a deal of persuasion to induce me to forego it, even if the yield is less, which I doubt, as, at any rate, none is spoiled, but every drop is available.

I will this summer certainly give Mr. Seamark's plan (2393, p. 36), or a modification of it, a good trial; for I cannot help thinking that, in combination with shading the hives, it will prove effectual. It does away with two great drawbacks, in my experience, to the chamber under brood-nest fitted with starters only, viz., 1. The impossibility, when the hives are tiered up, of lifting off the great superincumbent weight to see what the bees are doing in these lower chambers. 2. The terrible upset such examinations make in the hives. My bees invariably built brace combs between the tops of the frames with starters, and the lower bars of brood-combs. These, and the built-out starters, were partly occupied by brood (worker and drone), partly by honey. To separate the two stories was no joke; when pulled asunder, the mess of grubs and honey and drowning and crushed bees was unpleasant—to say the least; and it was even more trying to replace the disjointed stories.

I shall be glad to know how these two difficulties are to be overcome. To some extent they occur in all summer handlings of the surplus chambers of my hives, especially the Wells hive, and I thought of writing especially on this point later for information and advice.

For I hope it is distinctly understood, that I bring forward these inquiries simply as a novice desirous of instruction. I do so because I feel sure hundreds must experience the same troubles, but either may not like to admit them (a common weakness), or may not have time to write about them, or may not possess the requisite facility of pen to describe them. In any case, the discussions which have already arisen have been interesting and profitable to myself, and I think must be so, in some degree, to others. With this plea, I once more subscribe myself as—SELF TAUGHT, *January* 31, 1896.

OLD COMBS OR NEW FOR BREEDING?

[2407.] It is, I believe, generally admitted that for securing the largest population early in the season there is nothing like new combs. When full sheets of foundation were first introduced, nothing impressed me so much as to its value as the rapidity with which the brood-nest could be crammed with solid slabs of developing life towards the opening of the season, though I have since found that under certain conditions more brood can be secured in combs built without this artificial base, the great thing being to exclude pollen, and at the same time ensure that every cell is occupied by an egg as the building of the comb progresses.

It certainly pays to remove from the brood-chamber such outside combs as are clogged with pollen and honey, allowing space for new combs to be built at the centre, and wholly occupied with brood, as soon as the weather is suitable for such development.

Which does the queen prefer, old or new? has sometimes been asked. But has the queen herself really any preference in the matter, apart from the instinctive desire of the workers? Well, it amounts to about this—very early in the season the bees appear to prefer to have their cluster and brood-nest in the old combs which of course are the warmer. At that time new combs are neglected, but these and foundation are freely used as soon as a genuinely progressive state is induced by a sufficient income and a higher temperature.

Well preserved tough combs are better than new for wintering, and a stock in the former will always breed faster at the end of winter, and be generally in a more forward condition than those on the less protective combs. By "old combs" of course one does not mean those that are worn out; for as soon as the wax shows signs of perishing, the bees will renew such portions of combs before using them for any purpose.

When storing breeding combs, if dampness is avoided, they will be available for many years' service, and will increase in value. I am quite aware, however, that some bee-keepers think they should be frequently replaced by foundation, but this is an expensive and needless practice and especially when wired into the frames; rather than go to that fresh expense it is better to scrape the cells off down to the old base, when new tough combs can be secured on the foundation thus exposed.

Both old and new combs, therefore, are valuable under certain conditions, and the bee-keeper can adapt those respective conditions to his own profit, or neglect them and experience a decided loss.—SAMUEL SIMMINS.

A MISQUOTATION

AS TO "STANDARD SIZE" HIVE.

[2408.] Your correspondent, Mr. Wm. Hall (2938, p. 45), has misquoted the secretary named in his letter. Being myself the secretary referred to as having "twice over said that the standard-sized hive was too small," I have looked my paper over, but can find no mention of the standard hive. Now, what I said was: "First, the hive is of the greatest importance. By no means use a little hive; a hive with ten standard frames and one box of

shallow frames, or one rack of twenty-one sections, is a mere toy." (I was, of course, assuming if no more were used.) "But by no means have a heavy, cumbersome hive; I consider such are an abomination where we have to handle several of them. Have them as portable as possible. I think the most profitable hive is the one that can be reduced and added to at the will of the bee-keeper." That is what I said about hives and frames; never a word about a "standard hive." I should be pleased if your correspondent would give the readers of this JOURNAL his average takes, and show us the superiority his "dog kennels" possess over other hives. Till that is done I shall still "laugh," and be happy in the enjoyment of my delusion. It may interest your readers to know that the 20 × 8½ frame was tried here some years ago, with fifteen of such frames in a hive.—THE SECRETARY H.B.K.A.

PREVENTION OF SWARMING.

[2409.] Referring to my communication of January 6, Mr. Simmins, in a postscript to 2386 (p. 29) thinks I must have very small entrances to my hives. For his information, therefore, I may say that the entrances to the hives in question, that I have worked on the "non-swarming" system, always have been 14½ in. by ½ in. Moreover, one hive has had a large hole in centre of floor board in addition.

I hoped this discussion would have drawn some reports from the successful ones using the "non-swarming hives" on Mr. Simmins's plan. Surely some one can give good accounts of the system, and perhaps show why myself and others fail with it? I should be only too glad to know how to work the system successfully, but I must do it somehow without having to lift entire brood-chambers and supers (sometimes weighing 1 cwt.) constantly to cut out combs. This is the one part of the system that infuriates the bees if anything does. What about Mr. Simmins's latest form of hive, is it any good for preventing swarming? Tell us, ye that have used it. We want to know.

We are also anxiously waiting for more information about Mr. Seamark's "non-swarmer;" it looks like business, in that it gives abundant room and ventilation, but not room for objectionable comb-building below the brood-nest.—BEE-CYCLE, *Sussex*, *February* 4.

BEE-KEEPERS' ASSOCIATIONS

AND THEIR YEARLY "STATEMENT OF ACCOUNTS."

[2410.] As our County Bee Associations are now holding their annual meetings, and an opportunity is thus offered for discussing alteration in procedure, would it not be well to take into consideration the advisability of having all yearly statements of receipts and expenditure framed on one uniform principle? I might be allowed to suggest, for instance something like the following form:—

Dr.

Subscriptions and donations: so many at 21s., 10s., 5s., 2s. 6d. &c.
Other Receipts ... ...

(*Note*:—The expenses of administration—which is a test of good management—ought to be seen at a glance.)

Cr.

Expert Work... ... ...
Free Literature ... ...
Cost of Show (less entries and show grants, showing net sum expended) ... ...
Printing and Stationery ... ...
Postages ... ...
Secretarial Expenses ... ...

Some of our friends who are professional accountants might help the associations to a simple form of book-keeping and tell us how to show the financial position on some uniform plan.—Enclosing my name and address, I sign myself A COMMITTEEMAN.

BEE NOTES FROM SUSSEX.

[2411.] Since I last reported (2384, p. 27, on January 13) until January 29, we saw the sun but on one day, January 20, for the *whole* day, and on January 14 and 24 for a few hours. Looking over the weather record I have this year begun to keep in Mr. Cowan's admirable "British Bee-keepers' Practical Notebook" day after day, one notes the recurrence of such significant epithets as "overclouded," "dull and misty," "showery and mild," "cold and dreary," "very damp," "close," "raw," &c.

The features of this January will certainly be:—1. The high barometrical readings on 9th (30·8) and 30th (30·9). 2. The extremely small amount of sunshine (for these southern parts). 3. The general mildness and calm concurrently with the high anticyclonic readings. Since January 8 (when I commenced notes) the barometer has only been below 30 degrees on 14th (29·4) and 15th (29·65).

Since the 29th we have been enjoying almost uninterrupted sunshine, but with much colder weather and frosty nights. The bees have not been out collectively to any large extent, but have constantly taken individual flights. Yesterday and to-day I saw that some were bringing in pollen. Inside the hives the stronger colonies are very busy, even beginning comb in the half-emptied soft-candy feeding-boxes! I am thinking out a scheme for utilising this wasted energy.

In my garden laurustinus is now coming into profuse bloom; fuchsias in sheltered nooks have not even lost their leaves; snowdrops have been ten days in flower; yellow crocuses are beginning to show their bright heads; daffodils are well above ground;

hyacinths, and crocuses of other colours than yellow, are just poking their tips out of the earth; a primrose to be seen here and there; but no arabis is yet in bloom with me, although plants of white alyssum which have survived since the autumn are trying hard to flower.

The contrast with last winter is already very great. What is 1896 going to prove as a bee year?—W. R. N., *Sussex*, *February* 2.

HOW TO MAKE BEE-CANDY.

FROM A PRACTICAL SUGAR-BOILER'S POINT OF VIEW.

[2412.] Many of our bee friends seem to get in trouble trying to make the candy required for bee-food smooth and soft in texture. What they require is a strong "fondant." To make this, the sugar being boiled for the purpose is brought down to what is called "large pearl," or fourth degree. Sugar passes through seven stages to arrive at the caramel or barley-sugar stage.

If those who are unaccustomed to sugar-boiling, or those who find it troublesome, would take 1 lb. of broken white cane-sugar (beet sugar boils the same), add a good pinch of cream of tartar, put it in a small pan, pour over it a little cold water—just enough to wet the sugar well—let it stand beside the fire, and with an occasional stir it will dissolve. Next set it on a brisk fire and stir till it boils; then skim it. To tell when it is sufficiently boiled have a small basin of cold water at hand, dip the forefinger into the water, then at once into the boiling sugar, and then back quickly into the water. Don't fear for your finger, it will take no harm; but if afraid, use a spoon. Do this every minute until—on pressing the finger and thumb together, and then drawing them apart gradually—a small thread of sugar will show; try it again in two minutes, when the thread will draw out longer; again in a minute or two, when on being worked up between thumb and finger it will form a small pearl; after two minutes' more boiling it will form a pearl larger than a good-sized pea, and then—having reached the "large pearl" stage—it is boiled enough. Either immerse the pan in cold water for a couple of minutes, or pour the contents into another pan (just here is where some fail; a large quantity of candy would retain sufficient heat to carry it on into another "degree," which would harden it considerably). When off the fire commence to "grain" it by rubbing with a spoon somewhat quickly on the side of the pan; this makes it gradually assume a creamy appearance. Continue the operation until the mixture looks like creamy-white thick gruel. Mould this according to your requirements, and the result will be a soft smooth candy as easily taken by the bees as would be the contents of an ordinary chocolate cream.—F. H., *Dublin*.

WEATHER REPORT.

WESTBOURNE, Sussex, JANUARY, 1896.

Rainfall, 1·17 in.	Brightest Day, 29th, 6·3 hours.
Heaviest fall, ·38 on 25th.	Sunless Days, 16.
Rain fell on 13 days.	Below Average, 27·9 hours.
Below average, 1·37.	Mn. Maximum, 42·7°.
Maximum Temperature, 48° on 15th.	Mn. Minimum, 34·5°.
Minimum Temperature, 27° on 30th.	Mean Temperature, 38·6°.
Minimum on Grass, 24° on 30th.	Maximum Barometer, 30·93° on 25th.
Frosty Nights, 13.	Minimum Barometer, 29·03° on 18th.
Sunshine, 52·6 hours.	

L. B. BIRKETT.

Echoes from the Hives.

Somersham, Hunts, February 3.—Bees all flying yesterday carrying in water, shows breeding has commenced in earnest. Stocks seem to be very strong, thanks to our honey harvest of buckwheat of 1895. We have been troubled with a plague of mice this year which has played havoc with some of the skeps. But I introduced to our establishment a fine old "Tabby" which has reduced their numbers or they are taking notice to quit.—R. BROWN.

HONEY IN AN ELECTRIC LIGHT GLOBE.

Under this title the *Electrical Engineer* of New York prints the following paragraph:—

"For some time the electric light globe in Monument-square, New Brunswick, N.J., has been in disuse, and on December 24 Frank Boudinot, a lineman, went to repair it. When he got up to remove the globe he was attacked by a swarm of bees that had taken possession of the globe as a hive, and was severely stung before he could escape.

Afterwards the bees were smoked out, and the globe was found to be more than half full of honey."

We regret to state that our minor poet has broken out again. It is all Mr. Alfred Austin's fault this time—if he hadn't written those verses about Jameson's raid, our man would have kept quiet. However, the mischief is done now, and we publish the verses below, just to let our sympathising readers see what we have to put up with:—

How doth the little Yankee bee
Improve on Dr. Watts!
He never does a stroke of work,
But plays at honey-pots.

The other day some Yankee bees
A vacant lamp-globe found;
"This is a hive," said they, "'twill suit
Us right down to the ground."

So, thereupon they entered it,
And made themselves at home ;
And covered all the walls inside
With wax and honey-comb.

These Yankee bees held Irish views
On landlords and on rent ;
They took small thought of either when
They took that tenement.

"Now shall we," said those sinful bees,
"Improve each hour so bright ;
We'll gather honey all the day,
And bring it home at night."

They gathered honey all the day,
They all brought home great lots ;
No wonder ! for they stole it from
The grocers' shops in pots.

But quarter-day at length came round,
And so did Boudinot ;
He fixed his ladder on the ground,
And up it he did go.

Then did the bees him sting so sore,
He quailed from their attacks ;
It struck him that he was no match,
For these adepts at wax.

The combatants gave over soon,
Though neither owned defeat ;
For, while *they* stung him to the quick,
He beat—a swift retreat.

So quickly down again he came,
And he was mighty wroth ;
"Both honey and revenge are sweet,"
He said, "I'll have them both.

"These Bs have made me C-D feel,
They've made me pipe my I ;
P-Q-liar pleasure will I take
In dooming them to die.

"To be or not to be!" he cried ;
"The verb I'll conjugate ;
Those bees will not be bees for long,
With smoke I'll seal their fate."

Then, in pursuance of the dire
Design he had in view,
He filled his pipe up to the brim
With pungent "honey-dew";

And, lighting up, he straight began
To smoke his foes out fast ;
And thus he changed each little "be"
From present tense to past.

Each *bee* became a *was* perforce
(I hope you twig the joke),
And all those wicked bees did end
As my tale ends—in smoke.

—*Lightning, January* 23.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

L. H. S. (Elstow).—*First-class Expert's Certificate.*—The lecture required to be delivered by candidates is (as stated on page 30 of B.B.K.A. Report) "a public extempore lecture." We may add that this is practically a short address delivered before the Council of the B.B.K.A., who represent the "public." The "subject" on which the candidate speaks is handed to him at the time, not before.

R. S. P. (Newark).—*Honey not Granulated.*—Honey received, though not yet granulated is certainly granulating. No doubt the temperature of room in which it has been kept has helped to retard its becoming solid so soon as it would otherwise have done, but the weather conditions under which nectar is gathered have much to do with the variableness of honey granulation in different seasons.

H. Seamark (Willingham).—We referred to the matter last week, and have no doubt the method of using the "sliding drawer" (which term led us astray in preparing your letter for print), will now be well understood by readers.

B. Walker (Kirkby Stephen).—*Foul Brood bacillus.*—With regard to the points raised by our correspondent on page 16, we may say Dr. Lortet—a very eminent scientist—has proved by careful laboratory experiments (*vide* B.J. for January 8, 1891, page 16) that the bacillus exists in the digestive canal of the nurse-bee. Dr. Lortet's paper is full and comprehensive, and may be had from this office for 1½d. in stamps. Any further light our correspondent may be able to throw on the subject as a result of his own investigation we will be very glad to publish.

W. Morris Fletcher (Ringwood).—*Bees Storing Candy.*—Bees will store candy after reducing it to liquid form just as they do syrup. A 4-lb. cake of candy given now should last a stock till about April, but an occasional look should be taken, and if the cake has disappeared very quickly the supply may be renewed a week or two earlier.

P. (Elgin).—*Examining Hives in February.*—If any particular anxiety exists as to condition, take advantage of the first warm day. There is no need to expose brood in seeing to condition of stores ; the outer combs will show how food stands.

Barton (Ampthill). — *Melting Granulated Honey.*—The vessel containing granulated honey for melting must be placed in water and gradually heated to about 140 deg. Far. See page 42 of last week's B.J. for some useful particulars as to the care needed not to spoil flavour in the heating process.

Editorial, Notices, &c.

THE BRITISH BEE-INDUSTRY,

AND BRITISH *v.* FOREIGN HONEY.

A Cheshire bee-keeper, who is also a reader of this Journal, some time ago kindly forwarded to us several "cuttings" from a leading newspaper in the North (Liverpool *Daily Post*), from which it appeared that some discussion had taken place between several correspondents with regard to the honey-producing capabilities of these islands, and the comparative merits of British *v.* foreign honey. The correspondence arose in the first instance from a leader dealing with a prospective development of the bee-industry connected with honey production in this country. The paper referred to, we suppose, took the line of not only advocating the encouragement of a deserving rural industry, but also upheld the superiority of the home-grown product compared with the foreign article. This evidently did not suit the views of a firm of produce brokers in the City, and caused the insertion of a letter in which the said firm, after referring to their sympathy with, and "profound faith" in, the British farmer, go on to say:—

You may depend upon one absolute law—that we as a people will never waste our time in cultivating anything that the foreigner can produce more cheaply than ourselves.

This brings us to the question of honey production, experiments in which have been well tried in our own district around the Cheshire hills; but the very limited area on which wild flowers grow will always prevent satisfactory results. There are many thousands of small bee-keepers scattered throughout the country, but the insignificant quantity produced by each prevents any economical organisation for collection and distribution. On the other hand, California possesses thousands of square miles of mountains and valleys clad in the early spring with wild clover, heather-blossom, and myriads of other honey-producing flowers, from which billions of bees suck their daily stores. We have visited the bee-farms amongst the mountains of California, and have seen thousands of hives crowded together, from which many tons of the finest honey are drawn. All the honey is extracted and packed on the spot, and there is absolutely nothing added to it.

This letter called forth a rejoinder from "A Cheshire Bee-keeper," who wrote as under:—

Messrs. ——'s letter on the above subject is calculated to have a damaging effect upon British bee-keeping, and also to give a very wrong impression to the public as to English honey and its production. So far from British bee-keeping being of an experimental character, as indicated, there is ample evidence that the industry is a steadily increasing one of importance, production, and organisation. Old methods have given way to the latest and most scientific principles in vogue in any part of the world, and the excellence of the quality and the style of "get up" of English honey, as turned out by the best apiaries, cannot be excelled by anything we get from abroad. The largest quantity of honey produced is not from hilly districts, but from pasture lands. Many counties in England, Scotland, Ireland, and Wales have their own associations affiliated with the Bee-keepers' Association, London, whose influence and publications are known in every part of the world where honey is produced; and as to the pre-eminence of the home article over Californian and other foreign productions, it is attested by the fact that British honey is not only readily sold as gathered, but in the case of many bee-keepers their entire output is bespoken early in the year at something like double the price of the foreign productions. The fact that the British Bee-keepers' Association had an excellent exhibit from all parts of the British Isles at the Chicago World's Fair is also ample evidence as to the live nature of this industry.

This was again answered by the firm just mentioned, who justified their adverse comments by observing that they were induced by the B.B.K.A. decrying the quality of foreign and extolling that of British honey. They then say:—

The finest honey is always produced in the mountainous districts, and the delicate flavour of California honey is due to the heather, clover, and other flowers which abound there upon the hills. Narbonne honey obtains its high reputation from similar sources. Scotch bee-keepers often convey their hives of bees to the mountains during the heather blossom season.

"Cheshire Bee-keeper" states that the largest quantity of honey gathered in Britain is from the pasture lands. We are also of that opinion, because the bees have little choice, in consequence of our country being mostly under cultivation. If bees were gifted with human judgment and tender consciences, they would not rob the farmer of the clover honey, which would otherwise fatten his cattle. If we bring the argument to a finer point, it will be quite evident that if a hive of 50,000 bees gather 20 to 30 lb. of honey during the

season from a farmer's clover, it is no proof of economy or industry on the part of a bee-keeper, but it is as much a theft as though a poacher's dog were to bring hares from the farmer's fields.

When all the British bees have done their best, we annually require the services of one thousand million bees to produce the Californian honey for the British market.

It will be observed that, in the above, our old friend the story about the robbery and injustice suffered by the farmer through the unrestrainable visits of the pilfering bee to his clover fields,—a fable we thought exploded long ago—is once more hauled forth apparently to prejudice the mind of the agriculturist against our busy little protégé. This view, however, fails to meet with endorsement even from non-bee-keeping editors, for the same paper in a final leader on the subject deals with this part of the case by observing that

> The suggestion that a bee-keeper is guilty of petty larceny, and that a consumer of British honey is an accessory after the fact, is exceedingly ingenious. Public morality has not, however, reached so high a plane as to furnish lovers of native honey with an accusing conscience because of apiarian felonies among the luscious clover.
>
> Botanical investigators, from the time of Linnæus onward, have accepted the doctrine that the industry of the bee ensures the perpetuation of the clover species, by fertilising the plants in the course of its search after their hidden sweets. On the doctrine that exchange is no robbery, they surely condone their exaction of tribute by the service they confer towards the propagation of the plant.

On this point we go beyond our contemporary, and unhesitatingly declare that instead of loss the farmer actually benefits—and that in no small degree—by the visits of the bee to his clover fields. The exudation of a liquid-sweet from the nectary of the flower is Nature's bait to entice to it an insect, without which visit the plant would inevitably die out. Moreover, the nectar of which the bee rifles the flower would, if ungathered, be lost. A true case of "wasting its sweetness on the desert air." But the formation of seed as a result of fertilisation not only increases the weight of the hay, but adds considerably to its nutrient properties as food for cattle.

There are also, in addition, one or two other points in the correspondence, points with which non-technical journals are not supposed to be conversant, but which are worth notice here because of their having been specially dwelt upon by the "firm" referred to above as important to their "case." There are, first—the fact that any "heather" found blooming on the hills of California is practically of no value whatever as a honey plant; moreover, not a trace of either the unmistakable flavour or aroma which distinguishes all heather honey is found in that coming from California. Secondly, the "wild clover," growing in thousands of square miles in that State exists, we think, only in the imagination of the writer. The "clover" known to bee-keepers as the chief of all honey plants, and the only variety known to possess the particular value claimed for the flower referred to, *i.e.*, white Dutch clover, is nowhere seen growing wild in California, as stated, and only appears in the cool valleys, where it is sown and cultivated as with us. It would not grow at all in the fierce heat and dry soil of the Californian mountains. In a word, Californian honey is not "clover honey," and it is not "heather honey." The main crop is got from the wild mountain-sage, and from the numerous other wild flowers which abound there. Therefore, to make the statements to which we take exception is to mislead, and the efforts of the British Bee-Keepers' Association, and of the BRITISH BEE JOURNAL, will, we trust, always be directed towards drawing the broad line we deem necessary, in order to distinguish British from foreign honey, so far as letting each stand or fall on its merits.

NORTHAMPTONSHIRE B.K.A.

The annual meeting of the above association was held on February 1, in All Saints' schoolrooms, Northampton. Amongst those present were Mr. and Mrs. Ball, Messrs. Atkins, Manning, J. B. Bultin, Astby St. Ledgers, Brayshaw, H. Manger, J. Adams, C. Slater, G. Page, O. Orland, G. H. Wright, J. Perry, T. G. Adams, &c. Letters explaining absence were received from Mr. A. L. Y. Morley, Mr. E. Nigel-Stewart, Mr. F. Collis, and others.

Mr. W. L. Bird was voted to the chair, and called on the Secretary to read the report for the past year, which, under separate headings, dealt severally with the *Season*, *Annual Show*, *Lectures*, and *Out-door Demonstrations*, all of which features of the association's work were successful, and the general result very satisfactory. The report concludes by referring to

the affairs of the association generally as follows :—"The financial position of the association is a little better than it was a year back; the subscription list having slightly increased, but further improvement is needed to enable the association to carry out its full programme.

"It will be interesting to members to learn that 2,000 county honey labels have been sold, 80 copies of the *Record* distributed monthly to the members, and 9 copies of the BRITISH BEE JOURNAL distributed weekly."

The report and statement of accounts was adopted. The Hon. Treasurer (Mr. Atkins) then explained the accounts for the year 1895, showing a balance in hand of £9. 15s. 3d., besides an unexpended sum of £7 of the C.C. grant, which latter sum will provide the costs of lectures already arranged for. The accounts were duly passed. The election of officers for the ensuing year then took place, the president (Mr. James Pender, M.P.) being re-elected, as were the hon. treasurer, Mr. G. E. Atkins; hon. auditor, Mr. J. Francis; and hon. sec., Mr. R. Hefford. Messrs. J. R. Truss, J. Perry, and W. L. Bird were appointed experts; and the following the committee :—Mr. A. L. Y. Morley (chairman), Messrs. J. Francis, E. Ball, W. Manning, G. Page, O. Orland, H. Collins, C. Cox, and C. Slater. A resolution that the N.B.K.A. become affiliated with the B.B.K.A., and a vote of thanks to the Central Association for the great trouble they were taking with regard to foul brood, were duly carried.

After some further discussion on several subjects connected with the welfare of the association, the meeting closed with a hearty vote of thanks to the president and officials of the past year, and to the managers for the use of the school.—(*Communicated.*)

IRISH BEE-KEEPERS' ASSOCIATION.

The committee met on the 6th inst. Present —Dr. Traill (in the chair), Mr. Gillies, Mr. Read, Captain Millner, Mr. O'Bryen, and Mr. Chenevix, hon. sec, 15, Morehampton-road, Dublin. The business transacted related chiefly to the facilities afforded to members for the transport of honey and to the report for 1895.

DEATH OF A VETERAN BEE-KEEPER.—We learn with deep regret that another well-known and highly-esteemed member of the B.B.K.A., in the person of Mr. T. F. Ward, died suddenly at his residence, Church House, Highgate, on the 6th inst., the cause of death being angina pectoris. Mr. Ward was a frequent contributor to our pages, and a warm and liberal supporter of the B.B.K.A., of which he was for many years a member.

On behalf of the Association and of bee-keepers generally, we tender our sincere sympathy to his family.

HONEY IMPORTS.

The total value of honey imported into the United Kingdom during the month of January, 1896, was £1,788.—*From a return furnished to the* BEE JOURNAL *by the Statistical Office, H.M. Customs.*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*" *(see 1st page of advertisements).*

NOTES BY THE WAY.

[2413.] The month of February so far has brought no change in the mildness of the season. A few slight frosts have occurred, but sunshine has soon dispersed the keenness of the morning air, and revived the erstwhile sere landscape with the promise of an early spring. Birds, too, have commenced singing; nests being found containing eggs. Among the floral tributes of spring we have many specimens in full blossom; then, to complete the picture, there is the merry hum of bees, busy rifling the early blossoms of their slender store of pollen. Walking among the hives to-day, I noticed the first dandelion in full bloom, with two bees gathering what they could find among its many petals.

The winter of 1895 and 1896 has not been, so trying a one for bees as its predecessor of 1894-95 was, when the continued cold spell without a break to enable bees to part from the cluster to replenish the cupboard, caused the death of many colonies. These losses and failures, when the causes are discovered, ought to be our stepping-stones to successful wintering in the years to come. There is no doubt that the mild autumn of 1894 was one of the primary causes of the loss of many of the colonies that died out during the long frost of the early months of 1895. The mild weather at that time—with bees continually on the wing until well into the new year—induced breeding out of season, and then, when the frost set in and held on week after week, bees could not leave the cluster for food—of which, in some cases that came under my own observation, there was an abundance in the adjoining combs. I say it was too cold for the replenishing of the stores required for immediate consumption in the

brood nest, and the maternal instinct bound the colony to remain clustered to protect the brood; consequently, colony and brood perished together. This is, of course, preventable loss, and would have been averted by placing a cake of candy over the cluster, thus enabling the colony to sustain life till a supply was got from the outer frames of the hives. Year after year proves to me how good properly made soft candy is as a food for bees, and extended experience confirms the fact that the cake of candy is consumed by the bees before the honey gathered by themselves for winter stores. I don't know if this is the experience of bee-keepers generally. I can assert that it is mine.

Winter packing plays an important part in the well-doing of a colony; dryness being a *sine quâ non* to successful wintering. Hive roofs ought to be rain-proof and well ventilated, so that dampness after rain or mist may dry out rapidly, leaving the interior of roof dry. Our arch enemy, foul brood, belongs to the fungus family, and we all know that dampness is essential to all fungoidal growths; therefore, by keeping our hives and colonies dry, we shall be helping to keep the disease in check. The plan of using an "eke" under the hives during the winter months is, I think, a good one, as any bees that die off from old age or otherwise drop below the frames. Hives of the "Cowan" or the "W. B. C." type are best adapted to this system, the combination hive, especially those with fixed floor-boards, not being suitable for the insertion of "ekes." Strong colonies with young queens, and a large proportion of young (late summer bred) bees will winter well under almost any conditions, provided they have a good supply of food; but the general run of colonies in an apiary certainly repay for the extra attention bestowed on them in preparing and provisioning them in readiness before winter sets in.

Referring to the use of old combs for the extractor, permit me to explain my position on this question when I stated that "I should expect to get as clear water from clean bottles of black glass (*i.e.*, port wine bottles), as from white glass bottles." I had in my mind combs which had become black by age and use in the brood-nest before they were cut to size and transferred to shallow-frames. This I put in practice, tested year after year for some eight or ten years, and I have the old combs still awaiting another year's use for the same purpose—that is for supering. These combs do not look so white, are not so semi-transparent when filled; yet I contend, without fear of contradiction, that the honey stored in these combs during 1896 will be as clear and as free from impurities as will the honey from new combs built out during the coming summer.

I have never intended to assert that combs, used in the brood-nest and filled with honey when extracted, should be then used for the brood-nest and the extracting-box indiscriminately, but that old combs when once used for the store or super department of the hive should be kept for that particular use, and when so used for extracting purposes only.

Excluder Zinc.—I may again re-assert that I have no use for excluder zinc between brood-nest and crates of section, though I always use excluders when working for extracted honey in shallow frames. Do I have any sections spoiled with brood? Yes, a few, especially if the sections contain *drone*-size comb, but rarely with worker-size cells.

To avoid the mess your correspondent "Self-Taught" experiences when taking off his supers, I would recommend him to have the top bars of brood frames $1\frac{1}{8}$ in. wide, $\frac{1}{2}$ to $\frac{3}{4}$ in. thick, spaced $1\frac{3}{8}$ in. centre to centre.

In conclusion, may I be allowed to call attention to the annual meeting of the Berkshire B.K.A. at the Abbey Hall, Reading, at 6.30 p.m, on February 26. Mr. E. Turner, of Newbury, has promised to read a paper on "The History and Nature of Foul Brood." Musical arrangements, collection of appliances, light refreshments, &c. All interested in bee-culture cordially invited, especially those who intend to become members. Bee-men of Berks, don't miss the opportunity; rally to the support of your Executive in goodly numbers.—W. Woodley, *Beedon, Newbury.*

BEES IN HUNTS.

A BAD BEGINNING WITH A GOOD ENDING.

MILK-CHURNS FOR HONEY IN TRANSIT.

[2414.] Having seen no reports from Hunts for a long time with the exception of your notice of the Dairy Show—according to which Hunts beat the other counties easily—I thought it might interest some readers to have a short account of my own bee-doings during '95. Our Hunts bee-keepers are to be congratulated on making so good a display and winning so many prizes at the above show. Though not an exhibitor myself, I think shows are very good things for bee-keepers, as they educate people in bee-keeping and create a demand for bee-products.

I commenced the winter of 1894-5 with thirty-three bar-frame hives and five skeps, and owing to mismanagement—through not feeding up sufficiently in the autumn and the long frost which followed—I only managed to save nineteen frame-hives and none of the skeps (which latter I thought were well provisioned). In fact, I ought to call myself "bee-muddler" instead of a bee-keeper, as I lost more stocks last winter than in the twenty years I have kept bees. The nineteen that managed to pull through were so weak that at May Day it seemed impossible for them to gather any surplus; but by stimulative feeding, aided by the magnificent weather at the time, I got upwards of 1,200 lb. of honey, and have increased my stocks to thirty, all well provisioned for the winter. My best stock

gave me 120 lb. of surplus, and another over a hundred, the lot averaging nearly 65 lb. each, the best average I have had. I used sometimes to think it almost impossible for a stock of bees to gather over 100 lb. surplus honey, as I read in the B.B.J. of some doing; however, 1895 has set all my doubts at rest on that point. Some of my standard frames weighed 8 to 9 lb. each before extracting. I took the lot off, and extracted the whole of the contents and put the empty frames back again for the bees to clear up, in less than two days, at the end of the honey-flow, and I much prefer this plan to messing about extracting all summer. It was a splendid lot of honey, and I had no difficulty in disposing of it at a fair price, one firm alone buying half a ton of it. I was not troubled much by swarms, having only two, and they, curiously enough, hived themselves in two of the aforesaid skeps that were ready combed, so that I got a nice surplus from them. I often wonder how it is that some bee-keepers are troubled so much by swarming; I never am. I do not think 20 per cent. of my hives have swarmed during the last six years; perhaps it is because I work for extracted honey only, and use all built-out combs in standard-frames for extracting. This gives the bees plenty of room, and they seem to go up and commence work at once instead of swarming.

I used to send my honey away in lever-lid tins holding ½ cwt. each, but I don't like them; they require packing in sugar boxes and are difficult to empty, especially when the honey is granulated. What I used last year for that purpose, and what I intend using again for honey in bulk, are railway "milk-churns." They hold 2 cwt. or more each, are no trouble to fill or empty, require no packing (beyond a square of calico over the top before putting on the lid to keep the dust out), then tie the catch with a piece of string and seal it with wax. There is no necessity to label them "This side up," for they won't stand any other way up. I conclude by hoping bee-keepers will have as good a year next year as they had last, and farmers (to which unfortunate class I belong) a better one.—RICHARD FEW, *Needingworth, Hunts, February 7.*

NOTANDA ET INQUIRENDA.

SWARM-CATCHERS.

[2415.] Some weeks ago I undertook to give a few notes on the action of Hole's swarm-catchers, and here they are, for what they may be worth.

Hole's Swarm-catchers. — One of these I placed last May on a hive which threatened swarming, with three immediate results. 1. The first day or two an enormous number (several hundreds) of drones were trapped. The first night the receiving-box was full of them. I wondered whether the bees had attempted to swarm, and had gone back into the hive, leaving drones and queen trapped in the receiver; but I had no means of deciding this, as it was impossible for me to search through the mass of dead and dying drones for the queen; and I had all I could do to clear them out before dark. No workers, however, were amongst the trapped drones. 2. The top lift of the three or four I had on (sections) was at once deserted by the bees for ten days or a fortnight. Evidently the loss of so many drones greatly reduced the heat in the hive; and until the rapidly-growing population of workers once more evolved the necessary degree of warmth, the bees were compelled to restrict their operations. 3. When they returned to the topmost lift, their activity thenceforward was remarkable. They gave me about 80 lb. of honey; 60 lb. in sections, and 20 lb. in shallow combs. Their industry was simply ceaseless; and it was a great grief to me that I ultimately lost them altogether; for when I took off the swarm-catcher towards the end of July they were much reduced. When I returned from my August holidays, before taking steps to re-queen them if necessary, I incautiously gave them a lift of shallow combs to clean up; with the disastrous result that next morning honey, bees, and all, had been clean robbed out and cleared away by my other bees and by wasps. Nothing but the bare combs were left. *Eheu! fugaces*, &c.

To return. By the time I could obtain a second swarm-catcher the occupied side of a half deserted "Wells" had swarmed, and I had lost the swarm, as I have hitherto always done, out here in the open country. I put on the swarm-catcher, nevertheless, to study effects. Again precisely the same results followed, but even in a more marked degree than in the first instance. Of course the bees necessarily were soon queenless, as the young virgin queen could not possibly get out to mate. I watched for her carefully in the trap, which Mr. Hole had now most obligingly fitted with a drop trap-door, minimising the nightly trouble of clearing it of drones; but I could never discover her. In the end the bees died off, as I was away at the time when they should have been re-queened. But they yielded me, stored in both sides of the "Wells," to which they had access from their own side, quite 115 lb. of comb-honey. None of my other hives even approached these results.

I am therefore clear about two points— 1. Mr. Hole's swarm-catcher *largely* increases the honey return, whether because queenless bees work better than queened stocks, or because the drones are removed, or from whatever cause. 2. There is, however, a great danger of inducing queenlessness, and of the ultimate loss of stocks. Possibly, in more skilful hands than mine, and, above all, where there is time for more attention to be given, this drawback might easily be obviated. I can only give my own experience in the matter.

I have only two faults to find with the swarm-catcher, and one of these may possibly

be sentimental, while the other is certainly remediable :—1. The clearing out of the trapped drones every evening is an unpleasant, repulsive business ; and more than once I was severely stung by a stray worker wandering amongst them. 2. The little hanging bits of tin which form the "traps" are unsatisfactory. If a single one "sticks" from any cause (and they do stick), it may let out the whole swarm ; and when one does stick, it is almost impossible, when the "guards" are on duty, to set it right without taking off the whole concern. Again, the wires on which they are strung are not strong enough. Both mine broke before the end of the summer, apparently corroded through, and they must be set right before next season. This is a matter which it needs only a little ingenuity to get over, and I feel sure Mr. Hole will be able to contrive some effectual remedy before next spring.

At my suggestion Mr. Hole very kindly fitted up my receiving boxes to hold about five standard and shallow frames, on which a swarm, if trapped during one's absence, might at once go to work at comb-building upon fitted foundation ; and this also makes the receiver handy as a comb-box whenever not in use as a catcher. The adaptation can most easily be made at a trifling cost.

In conclusion, the hinged plates appear to present little or no obstacle to the bees after the first few days. The self-hiver is a splendid drone trap, without preventing the entrance of a few stray drones into the hive. To any bee-keepers obliged to leave their hives unattended for long intervals in the swarming season it must be simply invaluable. Next season I hope to use it myself again, when, with greater experience, I trust I then shall be enabled to report upon it still more favourably.—SELF-TAUGHT, *February* 4, 1896.

PREVENTION OF SWARMING,

AND THE USE OF OLD COMBS.

[2416.] I have often felt myself impelled to take part in the discussions of different topics appearing from time to time in the B.B.J., and thus venture to say a word on the above subject because of having given the "non-swarming system" a fair trial this year. I may say that in 1894 I decided to try a hive on the plan of the "Conqueror," and had one made in the autumn to take ten standard frames. A vigorous young queen and her stock of bees was transferred to it on the frames they occupied from an ordinary hive. Now, as the "Conqueror" hive opens at the back, and the two parts—*i.e.*, body-box and section-rack—are interchangeable, I removed the body-box tier from bottom, and replaced it with section-rack of hanging-frames, which latter was left underneath, and thus gave plenty of ventilation. The hive was then covered up all warm and snug for winter. Of the nine hives I closed the year 1894 with, this one wintered the best and commenced brood-rearing the soonest. Moreover, it did not swarm in '95. Judging, then, by one year's trial, it was a success. Clover honey in this district last year was a practical failure, but by the use of the extractor I managed to get about 1 cwt. from all my stocks, including about thirty sections of clover honey, twenty-one of which were taken from the "Conqueror." I was so pleased with this hive that I had three more made, into which I put swarms as they came. Referring to brace-combs, I have never yet had these built in any of my hives, being always careful to give a bee-space, and no more, below supers. Now, if "Self-Taught" (page 56) and "Bee-Cycle" (page 58) will adopt this plan, they will, I think, never find it necessary to use excluder zinc ; and I can assure them it is very convenient and a great pleasure to be able to examine brood-nest without disturbing the upper stories. I have never troubled to shade my hives, though I believe it a means, along with chamber under brood-nest, of preventing swarming; keeping stocks headed by young queens I also believe to be a great factor in prevention of swarms, as well as conducing to a more numerous colony of bees, and naturally a greater harvest of honey. I have four "Wells" hives, and four single-queened stocks, two of the latter with single walls and two with dead-air space all round, and I find as a rule that, all things being equal, single-walled hives are much more given to swarming than those with a dead-air space. Another thing I am careful about, viz., plenty of covering winter and summer to keep the temperature as even as possible. I use a quilt of check cloth, that saddlers line harness with, over the frames, and like it best of anything yet tried ; over that a thick cushion of flocks, which retains the warmth well. A chaff cushion over all, 6 in. thick, completes my coverings. I am now going to have more hives of the "W. B. C." plan, so that I can work on the doubling or storifying plan, as is most convenient.

Old Combs.—I have tried to say a word in favour of Mr. Simmins' non-swarming hive, but I will have nothing to do with his old combs. I renew most of mine after the second or third season. My experience shows that when the bees have sufficient income the queen prefers new comb for breeding purposes. I have found, after inserting a sheet of foundation in centre of brood-nest, nearly every cell filled with eggs when the walls of cells were only drawn out ⅛ in., while close by was a second-season comb with hundreds of vacant cells. I also fail to see that combs will be any the tougher on old foundation than new. Of course I may be wrong.—R. NESS, *Helmsley, North Yorks, February* 4.

THE NADIR.—QUEEN EXCLUDERS.

[2417.] I notice that "A Worker" (2397, p. 44) is still inquiring for more information

about nadirs, and states that his former query has not been answered. Possibly he has overlooked my own estimated value and detailed particulars of the legitimate uses of the nadir; but, without repeating that description, the answer can be given in one short sentence to his query: "Of what practical value is a nadir?" and the same reply will cover the whole of his other questions on page 45, next to the last paragraph.

To use his own words "comb-building is the real value of a nadir," consequently the legitimate use of this receptacle, as separated from the stock by a perforated adapter, being that of storing new honey-combs, it in no way aids in the prevention of swarming; while, on the other hand, as soon as sufficient ventilation is supplied below the stock-combs to assist in suppressing the swarming desire, the nadir is neglected, and nothing will then induce the bees to store or build therein.

I do not find that I stated, nor did I intend to state, that my Long Eaton friend had mentioned the word "eke," but with regard to the main points at issue I must leave the case to be decided by a more practical demonstration of facts than appears to have occurred within his own experience, and may take the prominent points in detail as opportunity offers.

As to excluder zinc, I may say it is not only unnecessary, but detrimental, whether working for comb or extracted honey, and that the bee-master does not need to rely upon that article to help him control the breeding of his queens. The first step to be taken in that direction is to maintain only such extra-strong colonies as will keep the queen in her place. Medium, or weak stocks, will never help their queens to develop the brood-nest to its full capacity before the first flow of honey occurs, and cannot crowd her down when that good time does come.

Unfortunately, it is not the rule for extra-strong colonies to be owned by the honey-producer, hence the reason that excluder zinc is wanted by so many bee-keepers. — SAML. SIMMINS.

[Regarding the use or non-use of excluder zinc for preventing queens entering surplus chambers, we trust that our correspondent's views on the subject will be understood and accepted by readers as being his individual opinion on the question, with which, of course, no one has any right to quarrel or object to. We say this in order to avoid further discussion on the subject just now in our pages.—EDS.]

NON-SWARMING HIVES.

[2418.] In perusing this week's BEE JOURNAL I notice an inquiry from "Bee-Cycle, Sussex" (2409, p. 58) *re* non-swarming hives, so give a few particulars of my last season's trial of same. I had a "Wells" hive made with two sliding drawers, one under each brood-chamber, as follows:—Floor-board, with entrances cut therein; on this a chamber divided in the centre, having two slots cut in top (which top is the floor-board of the brood-chamber); in this chamber two drawers are fitted, each holding nine shallow frames, and when closed leaves a bee-way of $\frac{3}{8}$ in. at front to prevent crushing any bees. The drawers are almost skeleton ones, there being just sufficient wood to make them strong enough. I cannot say whether it really prevents swarming, as none of my bees swarmed last year; but please note one side contained Carniolans, which in '94 were a swarm, and gave a maiden swarm. I like the principle, and do not think it affects the "honey take," as this "Wells" hive gave me 70 lb. extracted, and my other hives nil. I, however, hope for a better season this year, with some clover honey included, which was minus last season, although my district is a fairly good one for it.

Bees are having a good outing to-day, and are carrying in pollen.—R. H. COLTMAN, *Burton-on-Trent, February* 9.

NEW COMBS FOR EXTRACTED HONEY.

[2419.] I can endorse what our Editors say in "Useful Hints," on p. 51, about honey being better for show purposes when stored in new combs. How is it that honey taken from sections is always of a better colour than that from frames? Simply, as I think, that the sections are newly-built, while honey taken from frames is generally from old combs. Again, put sections filled with ready-built comb in a rack on a hive colony with others only filled with comb foundation, and a good judge will pick them out after they are filled. —NORTHANTS, *February* 10.

P.S.—I enclose my name and address (not for publication) and I think I am not unknown to you as a successful exhibitor of honey.

[Our correspondent is very well known to us in the capacity stated.—EDS.]

PREVENTING SWARMING.

[2420.] After dropping out of the ranks of active bee-keepers I did not intend to write again on this subject (or any other), but I cannot resist the challenge of "Bee-Cycle" (2409), as I have tried Mr. Simmins' plan for nine or ten years with hybrid Carniolans with two hives, and have only had three swarms. After the first two or three seasons I modified the plan somewhat, as the bees had too much drone brood in the eke (or front frames), and placing the starters $\frac{1}{4}$ in. apart was ineffective.

One hive was a combination hive, and instead of six starters in front I filled the two frames next the brood-nest with worker foundation, on the three frames next the

brood-nest with a whole, a half, and a quarter sheet respectively.

The other was a tiering-up hive, under which I had ten or twelve starters for the three or four combs, of which I afterwards substituted two sheets of foundation with a half-sheet, one on both sides of them, so as to leave only the end frames for drone brood. After this modification the bees never worked out all the starters.

Sometimes once, or possibly twice, in the season I overhauled the eke and the front frames in the combination hive. As to ventilation, I made a draught through the front frames in the combination hive by leaving a space uncovered by the quilt, and opening the floor-board ⅛ in. at back. In the other hive I always put bits of sections under the eke to let the air in all round, and sometimes left open the entrance of the hive proper as well as the entrance to the eke. For shading, the lid of a packing-case standing on two bricks (to let the air in at the bottom, and leaning against the top of the hive), sheltered the south-west side of the hive from the heat of the sun.

With the frames in the eke end-on to the front, and those in the brood-nest the other way, there were no brace combs. There was never any trouble in getting the bees into the supers, using worked-out combs to begin with, and a couple of partly-stored sections from the previous years.

Mr. Seamark's "non-swarmer" is on the Simmins principle, and would seem to be a step in advance; but would it not be better to substitute two starters at each side for the outside dummies to leave space for drone brood and comb-building?

It is very satisfactory to again see the names of old contributors to the JOURNAL.—T. F. L., *Brondesbury, February* 6.

Echoes from the Hives.

New Hedges, Tenby, February 7.—The weather has been extremely mild, with scarcely any interruption for gardening. I can count some two dozen various plants and shrubs about here in blossom, and, of not least importance, is a quantity of limnanthes from the beginning of December with innumerable buds awaiting a few good warm, sunny days to unfold their petals. For some six years I have not been without this valuable plant, and to have it blossoming at this season ready for the bees is far better than all the artificial pollen which, in my first year's experience of bee-keeping, I provided in the shape of pea-flour. A few crocuses are open, not a single snowdrop, and the winter aconite not yet appearing. In the severe frost, snow, and biting wind of last winter the aconite was robust and full of bloom. My bees are well. I left them with five and six, or more, frames of sealed honey, and on fine sunny days, when they are flying, I give them wet extracted combs to clean at a few yards' distance from their hives. On January 23 I saw, though not for the first time, large pellets of pollen carried in, and nearly all my ten stocks have commenced breeding. On Sunday, January 28, returning home from church, a fine lot of full-blown catkins on the common hazel gladdened the sight and the heart I do not now fear my bees obtaining sufficient natural pollen. I have been told that bees feeding on large areas of lavender succumb almost immediately. Is it a fact that they are poisoned or inebriated by the nectar?—J. QUARTERMAIN.

Beemount, Stoke Prior, Worcestershire, February 10.—What a very warm day was yesterday! How the little favourites revelled in the sunshine! When going through the churchyard, after morning service, my ears were assailed by a very pleasing sound, reminding me of swarming time. Upon looking round I discovered a grave flanked with about two dozen tulips, and working away at these were about a hundred bees. Several bees were also closely inspecting some newly-placed wreaths upon a grave near. Found pollen being taken in by four of my stocks during the afternoon.—PERCY LEIGH.

Beckenham, Kent, February 10.—It may interest some of your readers to know that to-day (February 9), being with us a very fine and warm morning, I ventured to open my hive for the first time this year. The reason for my doing so was because my gardener told me that for the past week the bees had been flying a great deal, taking water, and clustering on the alighting-board. (I am away from home each week-day, and had, therefore, not seen them myself.) The hive consists of a stock and swarm which I united last September, and wintered on ten frames, which they covered very fully. I was pleased, on opening the hive, to find the bees covering the first eight, and partially the last two frames, and, to use a vulgarism, "as strong as houses." I found eggs, larvæ, and a patch of sealed brood as large as the palm of your hand. There appeared, roughly speaking, to be about 8 lb. to 10 lb. of sealed stores remaining. Doubtless, with the mild winter we have had, most bee-keepers will find their stocks in this grand condition; but I felt so pleased about it that I could not refrain from writing you my news.—SATISFIED.

Queries and Replies.

[1419.] *The Use or Non-use of Foundation in Sections.*—As I am about to order my few "wants" for the coming bee-season, it has struck me, from last year's experience, that it

would be better not to prepare sections with full sheets of super foundation, for the following reasons :—(*a*) It costs 3s. 9d. more per 100 sections ; (*b*) because some of the foundation (owing, I should think, to heat) doubles up or bends out of place ; (*c*) because it takes a considerable time to fix the thin foundation in ; and (*d*) chiefly because my bees seemed (instead of starting at once to draw the foundation out) to gnaw it into a thousand pieces, and then start afresh ! Under such circumstances, I fail to see any benefit in using super foundation, and I see a considerable loss. 1. Do you think it would be better to use foundation or not ? As I have had no experience of working sections without foundation, I shall, of course, follow your advice. 2. Is the teaspoonful of cream of tartar essential in making candy (*vide* page 163 in "Guide Book"), as I have none by me ?—A BEGINNER, *Hinckley, February* 1.

REPLY.—Our correspondent formulates a rather formidable indictment against foundation in sections, and if his future experience yields him no better result, we should say—"Don't!" or, at least, don't use more of it than is really necessary to ensure a straight start in comb-building. Bearing in mind, however, that we must all expend a little on our learning, we anticipate that a second trial will go some way towards proving something like the following with regard to his several complaints :—(*a*) If it did not *pay* to put full sheets of foundation in sections, experienced honey-producers would not use it so ; (*b*) when properly fixed, the sheets will not "double up or bend out of place ;" (*c*) after a little practice the foundation is fixed very quickly ; and (*d*) if we saw a sample of the foundation used it might help to explain the refusal of the bees to work on it ; such "gnawing up" being—to say the least—not usual. It is quite possible that this season may be so much better for bees and honey than last, that failures in '95 may be successes in '96. We therefore reply to Query 1, Try again ; and to No. 2 we answer, Yes ; adding that our correspondent will do well, as a rule, not to leave out ingredients recommended for such things as candy-making, because he does not happen to have any by him, seeing that such omission will generally "spoil the cake."

[1420.] *Handling Combs containing Hatching Queens.*—Shall be glad if you can tell me, through the medium of your valuable paper, whether it will kill the young queens in their cells if the combs should be turned upside down for any length of time ? I fail to find any information on this subject in any of the bee papers or books ; but queen-cells are always spoken of as pointing downwards, and the young queens will naturally emerge from the bottom.—A. T. PROCTOR, *Great Wigston, Leicester, February* 7.

REPLY.—It is quite possible that harm to the young larvæ in queen-cells would follow if combs containing such were held "upside down for *any* length of time," but for the ordinary time occupied in inspecting a comb there need be no fear of damage. It is, however, known to be very risky to shake a comb on which a queen-cell is hatching, the downward jerk necessary to shake the bees from a comb being apt to dislodge the larvæ from its normal position, and to cause its death, or damage it so seriously as to render the hatching queen useless to the bee-keeper.

[1421.] *Fowls and Bees.*—Supplementary to my former inquiry, "Do fowls often attack bees ?" could I venture to place a few hives (for the sake of the sheltered site) inside an enclosure of fifteen square rods or so wired off for six or eight hens ? At my late farm the hens from the barn-yard used to crowd into the walled court-yard where the hives stood without apparent injury.—NORTH DORSET, *Jan.* 8.

REPLY.—We should anticipate no probable harm to fowls in such an enclosure as described if some slight protection were placed round the hives to keep the fowls from scratching close to them. When removing honey, too, it might be necessary to use some precautions for an hour or two if the bees got excited.

[1422.] *Ants in Hives.*—I removed here a few weeks ago, and find a number of ants' nests in the locality. Kindly advise me, through your valuable Journal, as to the best way to prevent the ants interfering with my bees. Is there any kind of hive-leg which would effectually prevent the ants from entering the hives ? or what is my best course ? 2. Is either pea-flour, candy, or dry sugar feeding equal to syrup for stimulating brood-raising in spring ?—JAMES WEATHERBY, *Doncaster, February* 1.

REPLY.—1. A band of tow or hemp, saturated with tar, tied round each leg will effectually stop ants from entering the hives. But we should take measures for destroying the nests, in addition to using preventives. 2. Flour-candy is the most suitable food for stimulating in early spring. Syrup later on.

[1423.] *Drones in February.*—On the 3rd inst., the warmth and sunshine being almost like that of a summer day, I went out to have a look round my hives, and was surprised to find, from the whole of my ten hives, workers and drones flying about as strong and numerous as in June or July ; the latest swarms appearing strongest in bees. 1. Can you give me any information on the point of drones appearing at this time ? 2. Would you advise me to feed on from now, trusting to good weather and a mild spring ? We have been having very mild weather here, with bright sunshine.—CALDER, *Renfrewshire, N.B.*

REPLY.—1. We should strongly suspect queenlessness as the cause ; drones so early as beginning of February being entirely

abnormal. 2. If food is short, feeding is, of course, necessary; but, with plenty of stores, no food is required.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

E. H. HOPKINS (Green Hill).—*Government Returns and Foul Brood.*—A little reflection will, we think, show our correspondent that there is really no analogy between the returns mentioned and the subject which exclusively affects bee-keepers. What bearing, we ask, can the increase or decrease of glanders among horses, or rabies among dogs, have upon the effect of compulsory powers for dealing with foul brood among bees? But apart from this, we feel quite sure that our correspondent would quickly change his views, and regard the matter from an entirely different standpoint, if he was himself in the unfortunate position of having his apiary ruined owing to the obstinacy of a neighbour—and there are many such—who would persist in keeping diseased hives, to spread infection everywhere around.

Referring to "paying the bill," we rather think a correspondent showed in our pages some time ago that the "bill" would not affect rates to the extent of "one-sixteenth of a penny in the pound." We hope to deal with this matter again and more fully shortly, for the purpose of showing some actual results of the working of the Contagious Diseases (Animals) Act, to which our correspondent refers.

ARCHIBALD SMELLIE (Larkhall).—*Dysentery in Bees.*—1. The only remedy for dysentery at this season is warm, well-made food, dry coverings, and a dry hive. Of course a warm, sunny day would have to be chosen on which the bees and combs could be quickly transferred from one hive to the other. 2. Bee sent is a worker, not a queen.

J. Q. (New Hedges).—We regret very much the omission of the lady's name in issue of B.J. following presentation referred to, which arose from an inadvertence quite unintentional on our part. We will gladly repair the omission now if not considered too late.

R. A. LUCAS (Uppingham). — *Help for Beginners.*—We know of nothing more likely to be helpful than the visit of an expert to the hives, and getting from him a practical lesson in bee management. As soon in the spring as the weather becomes warm and settled is the best time.

A. P. (Rutherglen) *Specific Gravity.*—No doubt you would see Mr. Brice's note at foot of his article on page 56, which explains the *lapsus* referred to. Much obliged for your correction.

R. CHAPMAN (Newton).—The honey sent has no very pronounced flavour, but we see no reason for doubting its purity. It is of good quality. We have no printed information as to candy-making other than what has appeared in our journals.

JOHN A. CARRINGTON, JUNR. (Bakewell).—*3rd class Exams. for Experts' Certificates.*—Full information regarding these may be had from the Sec., B.B.K.A., Mr. E. H. Young, 12, Hanover-square, London, W.

W. T. L. (Teignmouth).—*New Zealand Flax as a Honey Plant.*—From inquiries made we cannot think any success would attend the attempt to introduce the plant into this country.

H. H. HILL (Bridport).—*Starting Bee Associations.*—We have forwarded your letter to the Secretary of the B.B.K.A. who will no doubt reply to it.

A BEGINNER (Winchfield, Hants) writes:—"I must thank you much for inserting the letter I sent about 'preparing bees for the heather' (2322, p. 495). The answers it has called forth in your pages have been without exception, very much to the point and have explained just what I desired to know."

[We are glad to have been of service, but thanks are mainly due to our correspondents who furnished the information.—EDS.]

"RUN HONEY."—*Preventing Granulation.*—This can only be done by keeping the honey at a temperature of, say, 55° to 60° Fahr. Granulation, however, varies very much in different seasons, that gathered in some years keeping liquid for many months at a comparatively low temperature, while in others it will become solid in a few weeks after removal from the hives. Melting honey by heat no doubt takes away more or less of the full and delicate flavour, but if carefully done and not warmed beyond 150° Fahr. it suffers no great damage. It would, however, be folly to heat it while still liquid, as suggested, in order to retard or prevent granulation.

"DOUBTFUL ONE."—*Honey Samples.*—The honey sent is of very good quality, colour and aroma being excellent. The flavour, though rather lacking in distinctness, is good. If your own bees gather honey differing much from sample, the district must be either exceptionally good or the opposite, according to the way the difference lies.

JOINER (Addlestone).—1. Yes; close up frames to proper distance on the first examination towards the end of March, disturbing the bees as little as possible. 2. Do not put on sections until you are certain that the bees are strong enough and honey is coming in; then put on a rack of twenty-one sections, and when they are being sealed over raise the first one up and place another rack underneath it, always providing our above remarks apply.

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION.

The monthly meeting of the Council was held at 105, Jermyn-street, on Friday, February 14. Present:—T. W. Cowan (chairman), Rev. G. W. Bancks, Messrs. H. W. Brice, W. Broughton Carr, Major Fair, W. H. Harris, J. H. New, E. D. Till, and J. M. Hooker (*ex officio*). Edwin H. Young, secretary.

Letters were read from the Hon. and Rev. H. Bligh, Rev. W. E. Burkitt, and Mr. A. G. Pugh, regretting their inability to attend.

The minutes of the meeting held on January 10 were read and confirmed.

New members were elected, as under:—

Baines, T., junr., 75, Fairfax-road, Hampstead.
Baker, W. K., Towednack, Penzance.
Benson, John, Midland Dairy Institute, Kingston Fields, Derby.
Dawe, Miss Helen, Long Ashton, Bristol.
Hole, Geo. Wm., Patcham, Sussex.
Lane, W. C., Orwell, Royston.
Northamptonshire B.K.A.; hon. sec., Robt. Hefford, Boughton, near Northampton.
Perry, John, Bridge-street, Banbury.
Young, Edwin H., 12, Hanover-square, W.

On behalf of the Finance Committee, Mr. Till presented the statement of accounts for the year 1895, which was adopted.

The agreement with Mr. Young, the new secretary, was passed, and ordered to be signed by Mr. Cowan on behalf of the Council.

The Chairman reported the result of the meetings of the Joint-Committee on the subject of foul brood among bees, stating that in an interview with the secretary to the Board of Agriculture, Mr. Elliott had suggested that it would be well to get a private member to introduce into the House of Commons an adoptive measure, to be put into force at the instance of two or three bee-keepers. The matter had now been referred back to the committee, to confer with the County Councils' Association, who would consider the question at a meeting of the Parliamentary Committee to be held on February 19, when he (the chairman) had promised to be present to represent the British Bee-Keepers' Association.

Appointments were made of judges and stewards to officiate at the Royal Agricultural Society's Show at Leicester, and at the "Bath and West" and Southern Counties Show at St. Albans during the coming summer.

The draft annual report of the Council was considered, and it was resolved that its final revision be left in the hands of the chairman.

It was decided to hold the annual meeting of members on Friday, March 13, at 4 p.m.; preceded at 3.15 p.m. by a meeting of the Council.

Suggested alterations in the form of printing future annual reports were agreed to, and the meeting terminated.

Nominations of members of the Association for election on the Council for the year 1896, must be made on the special forms provided for the purpose, and be received by the Secretary not later than Friday, February 28.

The Annual General Meeting of members of the Association will be held at 105, Jermyn-street, S.W., on Friday, March 13, at 4 p.m. The Baroness Burdett-Coutts, President of the Association, in the chair.

Notice of motions for this meeting must be received by the secretary on or before February 28.

A conversazione will be held after the close of the General Meeting (about 6 p.m.). Members desirous of introducing subjects for discussion, or submitting new or improved appliances, are requested to communicate with the secretary as early as possible.

The list of prizes for Bees, Hives, Honey, &c. offered for competition at the Royal Agricultural Society's Show, at Leicester, and at the Bath and West and Southern Counties Society's Show at St. Albans, are now ready, and can be had on application.

The Secretary will be glad to receive subscriptions for the current year, which became due on January 1.—EDWIN H. YOUNG, *Secretary* 12, *Hanover-square, London, W.*

LINCOLNSHIRE B.K.A.

ANNUAL GENERAL MEETING.

A general meeting of the above association was held on Saturday, February 15, at 3 p.m. in the Guildhall, Lincoln, kindly lent for the occasion by the Mayor. The chair was taken by the Rt. Hon. Lord St. Vincent, and the minutes of the last general meeting having been read and confirmed, the secretary presented his report for the past year. The report showed continued increase in numbers and prosperity, fifty-six new members having joined, and there being a balance of over £20 in the treasurer's hands. The report also showed that two of the members had qualified as experts during the year, and that a number of lectures had been and were being given throughout the county, during the winter months.

The County Council of the Lindsey Division continue their grant of £25 to the association in aid of technical instruction in bee-keeping. Grants had also been made by the association in augmentation of the prizes for honey at horticultural shows held in the county during the past year. The report was adopted.

Several matters relating to the future management of the association then came up

for discussion, and among other things it was decided that a specimen copy of the *Record* be sent to every member of the association next month gratis. After the conclusion of the formal business of the meeting, a lecture was delivered by Mr. F. J. Cribb (chief expert of the association) who chose for his subject "Foul Brood." The lecture was illustrated by limelight views showing spores, bacilli, and foul-broody comb ; and the lecturer gave a very complete and lucid account of this disease, embracing its history, causation, propagation, symptoms and treatment. The proceedings terminated with the usual votes of thanks. About forty members were present, and on the conclusion of the more formal part of the meeting a considerable proportion of the members partook of refreshments specially provided, and a very enjoyable and satisfactory meeting was thus brought to a close.

The rule of procedure at this general meeting was a new departure as regards the L.B.K.A. ; heretofore one (annual) general meeting only has been held, and always on the last day of the County Show, when business, and *business* only was the order of the day.

It is thought that in view of the experiment having been so successful, the new arrangement and the development of the social side of the annual gathering will tend to unite bee-keepers, increase membership, and generally benefit the pursuit in the county. A well thought out programme, and special attention to the inclusion of something tending to make the evening pass pleasantly will make our annual meetings helpful in every way.—(*Communicated.*)

FOUL BROOD AND ITS TREATMENT.

Written for the Journal of the Royal Agricultural Society of England.

BY THOS W. COWAN, F.L.S., F.G.S., ETC.

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Since the formation of the British Bee-keepers' Association, twenty-one years ago, the art of bee-keeping has made continued and steady progress. The Association was established for the purpose of advocating the more humane treatment of the honey bee, and for bettering the condition of the cottagers of the country and of the rural population generally. Under its fostering care the pursuit has been raised from a mere amusement indulged in by a few amateurs or cottagers to an important industry, by means of which many persons have been able to add considerably to their incomes. It is safe to say that, owing to modern methods of management now prevailing, the amount of honey raised can be estimated at a hundredweight for every pound produced twenty years ago.

The Royal Agricultural Society has done much to encourage bee-keeping, and the bee department at its annual shows has uniformly attracted a considerable amount of public attention and interest.

Amongst the minor industries connected with agriculture, there are few more interesting or more capable of profitable development than bee-keeping. In fact, it may be safely said that, if properly managed, few, if any, of our minor industries can be made so generally remunerative. In times of acute agricultural depression the attention of our small farmers, and indeed of all who derive their income from the land, must be turned to such minor industries or branches of *petite culture* in the same way as on the Continent, otherwise we shall be left behind in the race of competition.

The imports of foreign honey into the United Kingdom are very considerable, sometimes reaching the value of nine or ten thousand pounds sterling in one month. The imported article, as a rule, however, bears no comparison with the superior quality of the honey raised in this country ; but, as the former is frequently sold as British honey, a serious injury is inflicted on the British producer.

Regarding the capacity of the United Kingdom for honey production, there is pasturage at present for at least ten times as many hives as are now kept.

Profitable as bee-keeping is with regard to the production of honey, the advantages which farmers derive from bees are much greater than is generally supposed. It is impossible to get perfect fruit and abundant crops without bees, consequently, the indirect profit of bee-keeping in regard to our crops far exceeds the value of the products of the hive. In other words, the indirect benefits resulting to the fruit-grower far outweigh the visible results. If bees have free access to white clover in bloom, not only is the flow of honey rapid, but the effect on the crops grown for seed is still more remarkable by way of increasing the abundance of the yield of seed, compared with what it would be if only few bees were kept in the vicinity. Regarding the fertilisation of fruit, it has been ascertained, by actual count, that twenty times more bees than other insects visit the bloom at the time of flowering.

The benefits of bee-keeping, both direct and indirect, are admitted, and there is abundant evidence that it is capable of very great expansion, there being vast tracts of country where good bee pasturage abounds, yet where no bees are kept at all. The only visible hindrance to a rapid expansion of the industry is the prevalence of a pestilential disease commonly known as "foul brood," which is so rapidly spreading over the country as to make bee-keeping a hazardous occupation. The bee-pest referred to has, however, received a good deal of attention of late, having been brought by the public press prominently before the country, owing to the action taken by the British Bee-keepers' Association in introducing the subject to the notice of the Board of

Agriculture with a view to legislation, and to obtaining compulsory powers for dealing with it. The BRITISH BEE JOURNAL and *Bee-keepers' Record*, the two journals exclusively devoted to the interests of bee-keepers, have also kept this question constantly before their readers by repeated references to it in leading articles, and by correspondence dealing with the subject.

Foul brood is terribly contagious; moreover, stocks suffering from it are generally weak, and this induces bees from other hives to rob them of their honey. Thus the mischief spreads from hive to hive. It is also largely propagated by those who keep bees in straw skeps, the ignorant and the indifferent. Recently, the President of the Board of Agriculture received favourably a deputation of the British Bee-keepers' Association, who were accompanied on the occasion by an influential gathering of members of Parliament in sympathy with the movement, and there is every prospect of bee-keeping being recognised and assisted by the Government, which will no doubt give it an impetus. But until some means are devised for stamping out the disease it is very desirable that those who keep bees should thoroughly understand the nature of foul brood, and know how to treat their stocks when attacked, and to prevent the disorder from spreading.

HISTORICAL RETROSPECT.

From the writings of ancient authors there seems to be no doubt that foul brood has been known for many centuries, probably since bees have been domesticated. Aristotle, after describing the ravages of the wax moth as a disease, says: "A second disease is a sort of inactivity that attacks the bees; the hive then contracts a bad smell." The inactivity of bees and bad smell are well known as indications of foul brood, and it is more than probable that it was by these outward signs only that disease was recognised by the ancients. We may also safely suppose that our forefathers, who lived thousands of years ago, examined the interior of their hives just as seldom as do our skeppists of the present day. Although Aristotle mentions the facts of the disease, and says, "the bees are liable to become diseased when the flowers on which they work are attacked by blight," he suggests no remedy.

Coming down to a later period, we find Schirach, in 1769, describing the disease and actually calling it "foul brood"—a "veritable pest." He suggested two causes which lead to it, viz., bad food, on which the larvæ are fed; and misplacement of the larvæ, so that they are not able to develop. As a remedy he advises the combs to be removed and the bees allowed to fast for forty-eight hours, after which they can be introduced on to clean new combs, and fed on syrup prepared with sugar and wine, flavoured with nutmeg. Thus we have given us nearly 130 years ago a method of cure almost identical with what is by some claimed as new to-day.

In 1790, Della Rocca, in his *Traité complet sur les abeilles*, describes very minutely an epidemic of foul brood which destroyed the apiaries in the island of Syra in the years 1777 to 1780, and says, "Some pestilential blight had, without doubt, corrupted the honey and the dust from the anthers." He also recommends starvation as a cure.

Since that time many noted scientists and bee-keepers have experimented with the same disease, and various theories have been advanced with respect to its origin, the favourite one being that the disease was propagated by the honey, and that if this were removed and the bees starved until they had consumed what they had taken into their stomachs, and started afresh, foul brood would be got rid of. However, the disease, even in the hands of the most experienced, broke out again, and, as an instance, it may be mentioned that Dr. Dzierzon, of Carlsmarkt, in Silesia, who pursued this treatment, lost as many as 500 colonies through foul brood. Although Dzierzon, Berlepsch, Fischer, Lambrecht, Cech, and other leading men in Germany were for years investigating the disease, it was not until 1870 that a real ray of light began to shine upon the subject, and that scientists were able to show why the starvation method and other attempted cures had failed.

We are indebted to Dr. Preuss, of Dirshau, in Prussia, for the first "light" just referred to. After examining foul brood microscopically, he at once pronounced it to be a germ disease, which he declared was due to the presence of a microbe known as "micrococcus." He also said that if this could be destroyed the disease could be cured.

Of course, this announcement of Dr. Preuss was received with some derision by bee-keepers, but Pastor Schonfeld determined upon experimenting for himself. He infected several hives, and, when foul brood in a virulent form had developed therein, he took a comb of rotten brood to the Physiological Institute at Breslau, and had it submitted to a microscopical examination by Dr. Cohn and Dr. Eidam. Dr. Cohn soon found the "micrococci" of Preuss, and amongst these a number of rods, some singly and others connected together, which he at once pronounced to belong to the genus Bacillus. Not only was this found subsequently to be correct, but it was also now understood that what were taken for micrococci were really the spores of bacilli. Many of our readers may remember that very little was known about bacteria and disease germs in 1870, so it is not surprising that Preuss should have mistaken for micrococci what we now know to be the spores of a bacillus.

The discovery of Dr. Preuss led to experiments being carried out with various suggested remedies, and in 1873 Professor Boutleroff, of St. Petersburg, published the results of his treatment of the disease with phenol, in the proportion of 1 of pure phenol to 600 of honey.

Others tried thymol, and in 1875 Hilbert—whose apiary was affected with foul brood in its worst form—published the results of his experiments with salicylic acid. He gave this a severe test, and, after many failures, eventually discovered a method by means of which he effectually got rid of the disease from his apiary.

In 1883 the late Mr. Cheshire and Mr. Watson Cheyne conjointly carried out experiments at the laboratory of the latter gentleman, and by their investigations confirmed the discovery of Dr. Cohn that the germ causing the disease was a bacillus, to which Mr. Cheshire gave the name of *Bacillus alvei*. In Germany it was known by the name of *Bacillus alveolaris*.

Since that time various experiments have been made and numerous remedies more or less effectual have had their advocates. But owing to carelessness, want of knowledge, and, in many cases, the impossibility of making people realise the infectious character of the disease—or the necessity for disinfection—foul brood, like a dark cloud, is spreading over the country.

(*To be continued.*)

ABOUT OUR BEES.

BY HENRY W. BRICE.

(*Continued from page* 56.)

To resume the subject of *Hives*, I may say the entrance should in no case be less than 8 in. in width; in fact, it is advantageous to be able to make the entrance as wide as the whole hive-front in the busy season. Simple slides for readily contracting the width of doorways are best. The floor-board should be detachable from the hive to allow of the latter being slightly raised for ventilation in very hot weather, and for hiving swarms, &c. To those who make their own hives I would say—first purchase a good sample hive of the exact kind desired *in the flat* as a pattern to work from, and accustom yourself to all the parts and their respective purposes before beginning to cut up your timber. I have, however, found it so easy to get machine-made body-boxes and surplus-chambers for shallow frames, moreover, so cheap (1s. 6d. to 2s. each) that I have given up making them myself, just as I gave up home-made frames. Machine-made bee-goods are so perfectly accurate in cut and finish that amateur-made ones will, I fancy, soon be as scarce as home-made sections, &c.

The standard frame already referred to as the only one that should be used in brood-chambers is 14 in. by 8½ in. outside measure, with a top-bar 17 in. long. For surplus-chambers the shallow frame is to my mind by far the best, and is the same size as the standard, less 3 in. in depth—*i.e.*, 14 in. by 5½ in. With regard to the use of distance guides as a means for spacing frames, I consider that, however efficiently older members of the craft may manage without the use of "helps" to space their frames correctly—or by the use of bell-staples, nails, and such like—the usefulness and neat convenience of the metal end, and especially the well-known tin "end" so largely used in this country, is undoubted, while to the beginner it is an absolute necessity to good management.

Quilts.—In my own practice I prefer common jute carpeting for quilts, two thicknesses for summer, with considerable additions for winter. Let the first quilt have a 4-in. feed-hole cut in it, rather on one side. A loose piece covers the same. The hole is cut on one side to enable the bee-keeper to spread the brood nest in early spring without the necessity for opening the hive or disturbing frames in any way. The method of carrying out this will be explained under its proper heading in due course. Some bee-keepers prefer a lighter material than jute carpeting as the first covering for frames, in order that bees may not be imprisoned or crushed between tops of frames and quilt when readjusting the latter. I think, however, that a little care in sliding on a quilt of comparatively heavy material like jute carpet is actually helpful in saving bees from harm, as they are pushed before the edge of quilt as it is being passed from back to front of the frame-tops, and the quilt of its own weight keeps the bees down when it is laid on.

Smokers, &c.—A *good* bee-smoker is an indispensable appliance in every apiary. I emphasise the word good, because one of the greatest annoyances a bee-keeper has to contend with is a *bad* smoker, *i.e.*, one that goes like a small furnace when not wanted to, and when most needed is found to have "gone out." Therefore, I say get a good smoker; they are to be had, though in most of those sent out there is room for improvement. I do not advocate the use of a lot of smoke when manipulating bees under ordinary circumstances; bee-keepers as a rule are, I think, too fond of giving a lot of smoke, some nearly suffocate their bees therewith, and at least upsetting the work of the hive for hours afterwards. Smoke in quantity is no doubt desirable at times, but very seldom; when, however, these occasions do occur, it needs to be given in quantity, and at short notice. Such material as fustian or cordu roy, old sacking, &c., give out large quantities of smoke, and generally of an offensive odour, I therefore use none of them, relying on coarse brown paper, or waste pieces of jute carpet. The carbolic cloth is also a useful adjunct in any apiary. In my hand, however, it is not so generally useful and effectual for subjugating bees as smoke, but as a preventer of bee-crushing in such operations as placing surplus-chambers on hives and various supering manipulations it is most useful. By its use and the exercise of ordinary care not a single bee need be sacrificed.

Bee Veils, &c.—None but the foolhardy can afford to dispense with a veil, which should be on the hat ready for use, though not worn down over the face at all times. A simple, bottomless bag, of coarse black net, an elastic band run through the top to cause it to fit close round the hat is all that is wanted, if the bag is made deep enough for tucking under the coat when buttoned. Gloves may be used until the beginner gains confidence, but should be dispensed with as soon as possible afterwards. They cause clumsiness in operating, annoy the bees in use, and increase stinging not a little. These things being sufficient, in my mind, to determine any one to put up with a sting on the hand occasionally rather than use them. I should expect the most quiet bees to at once turn into little furies were I in such a nervous condition as to require the use of gloves. The sooner the bee-keeper who "works in gloves" makes up his mind to discard them, the sooner, in my opinion, will he know what it is to manipulate a hive of bees *without* being stung. Cuffs or gauntlets, or any other means of preventing bees crawling up the sleeves of the operator are very useful; personally, I simply turn back the cuffs of my coat until they fit tight to the arm.

The Extractor.—This appliance is indispensable in all apiaries where extracted honey is gathered in any quantity. A machine of cylindrical form should be chosen, not necessarily the most expensive, but a sound, durable article of up-to-date type, which with fair use will last a lifetime.

Super-clearers.—Who of us a few years ago included these articles in our list of appliances? It was felt that something was wanted for the purpose of easing down the time and trouble of removing surplus-honey, and now who could do without them? None who desire peace and quietness among their bees. Think for a moment of the crude makeshifts used before the "Porter," "B-off," and escapes of that type became known. Why taking honey then was for most folks a thing for mature deliberation; the careful closing up of all the windows and doors, &c., and seeing that our next door neighbours were all indoors before we ventured to operate. But now the whole thing is done almost without the bees being aware of the fact that their stores have gone. The super-clearer, therefore, I regard as an absolute necessity in the apiary.

Self-hivers.—The want of some method of preventing swarming, or of an appliance for catching or retaining swarms when the bees have resolved upon emigration, has been long felt, and much thought and time has been expended in the endeavour to secure one or both of these objects. So far, however, and although progress has been made, the questions are still unsolved in a quite satisfactory way. So far as swarm-catchers, there are (perhaps minor) defects to be overcome, and certain details require perfecting before entire satisfaction is secured. For myself, I rather look to skilful management and the selection of our strains of bees to remove the swarming difficulty than to appliances for retaining swarms which may never issue. At the same time, I cannot but regard with some favour the advantage gained by an arrangement affixed to a hive during the swarming season, which will trap all the flying drones in the hive. The fact of it doing this will, in my experience, not only restrain the bees from swarming, but will add materially to the honey harvest in nine cases out of ten. The drones having been, however, got rid of, the appliance should be removed. A droneless hive seldom swarms—certainly never under normal conditions, and ventilation and timely room also assist in preventing swarming, but all this latter is included in what I have already referred to as "management." For the rest, the multiplication of appliances only adds to the expense.

My advice is—have as little useless paraphernalia about the apiary as possible. After resolving upon the things really necessary, don't buy the commonest, because they are cheap. A good thing of its kind is always cheapest in the end. There are also a few other helps to success with which I shall hope to deal when we come to discuss the uses to which they are put.—*Thornton Heath.*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

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*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

"WHAT IS PURE HONEY?"

OLD VERSUS NEW COMBS FOR STORING SURPLUS.

[2421.] With much pleasure have I noticed our Editors' recent refusal to entertain the notion that combs from which brood has hatched out are good enough for supering with when working for extracted honey. Let us not go backward in our craft. Time was when the miscellaneous product of the brood-combs from a skep, squeezed out and strained, was considered to be table honey. Then came frame-hives and the extractor. This was a great step up the ladder; but still quantity

rather than quality was obtained by "doubling." In due time ignorance ceased to be "bliss;" the day of supers, of shallow frames with combs as clean and bright as those of sections, dawned on us; and as regards purity of product, bee-keeping probably reached its zenith. There can be little force in the argument that brood-hatching makes the combs tougher, when most of your readers, like the present writer, must have extracted for years past from unsoiled combs with hardly one mishap.

We welcome the editorial assurance that no honey can hope to compete, with full hope of success, at a show, under competent judges, with that from combs free from the taint of brood. But apart from that, if the question were put to the honey purchaser—and put it ought in fairness to be—"Will you have this man's honey from unsoiled super comb, or that man's from combs in which bee-grubs have been reared, and have lived and possibly died whilst carrying out their peculiar transformations?"—doubtless the producer who could guarantee pure honey from virgin comb would carry off the customer.

Fancy may have something to do with it. But suppose I get my milk from a neighbouring farm, and that its quality is all one could reasonably expect—no complaints. Only one day it becomes known that, under pressure of work, the dairyman is in the habit of borrowing a neighbour's slop-pail when cans run short! He assures me that the vessel in question is always well wiped out, and even polished. It may be so. I have no reason to doubt it; but—all the same—I have done with that dairy. And so, for very similar reasons, none but "pure honey from virgin combs" for—SOUTH DEVON ENTHUSIAST, *February* 17.

THE "WELLS" SYSTEM.

MY EXPERIENCE WITH IT IN 1895.

[2422.] For the benefit of my brother-bee-keepers who may have tried the "Wells" system and failed with it, as I did myself on the first trial, I would like to say how I at last got hold of the secret of making it a success. Well, I may be said to have followed the example of the great artist who, when asked what he mixed with his colours to make his paintings so successful, replied "brains." In this way I brought all I possessed of intelligent common sense to bear upon my management as I gained experience of the system. I feel quite sure Mr. Wells never intended that two strong stocks should be put in one hive to work side by side in one super. The system was devised to enable the bee-keeper to get the benefit of co-operation between two weak stocks, so that between them a harvest could be secured. We know that stocks which have from various causes—other than disease—dwindled down in winter, are generally useless as surplus gatherers the following season because of not getting strong enough till the honey-flow was over. Now this is where the "Wells" system comes in to aid the bee-keeper. In my case I had in March, last year, twelve of my stocks which were decidedly weak in numbers that month, yet these twelve gave me 600 lb. of such fine honey that I fear I shall not soon see the like again for quality. They also stored in addition plenty of winter food for themselves. The bees were worked in hives each containing fourteen frames, and over each double compartment was placed one of my "equalisers" filled with soft candy in case of scarcity. I winter the bees in these "Wells" hives on twelve frames, to give the bees more space for clustering.

When the "Wells" plan first came in vogue I made a hive to hold twenty-four frames; put two strong stocks in it, and expected to get a harvest from it to break the record. But it failed, for one side became queenless, and the result was no surplus at all. I then tried ten frames on each side of divider, but the bees swarmed and I lost the swarm.

Now all this time I did not condemn the system. I felt that my method must be somewhere a bit faulty, and intended to make it a success, if possible. I therefore read up Mr. Wells's reports and his advice, as they appeared in your journals, and now, with a slight variation, have worked the system for two years, and been successful with it. The variation referred to is with regard to the extension of brood-nests. I do not always give the additional fourteen shallow-frames to enlarge the brood-nests; because, although your queens may be young, they are not always so prolific to need the extra breeding space, and when I see that the fourteen standard frames are sufficient for the two queens I do not give the extension as recommended by Mr. Wells. In conclusion, I have a lot to thank Mr. Wells and his system for, and feel sure if followed out, as I say, with intelligence, it will make the whole of the stocks in your apiary successful, because of getting a harvest from the weak stocks. One word I must add: Do not attempt to make your own "Wells'" dividers. You may burn ninety-nine holes of right size, and the hundredth just large enough for the queens to pass; then comes failure. Buy your perforated dummy from a good appliance manufacturer. Hive, too, if you can afford it; everything fits so nicely and accurately.—RICHARD BROWN, *Flora Apiary, Somersham, February* 14.

NORTHERN NOTES.

[2423.] All through January and what has gone of February the sweet hum of the bee has been heard almost every other day. Several days have felt like May, and Saturday last was more like June. Stores have been severely drawn upon, and I should like to sound a

warning note. Examine every hive at once as to reserve of food. One of mine, I regret to say, was found "cruelly done to death." A splendid lot of bees was found quite dead, and not an ounce of honey in all of the nine frames. A peep into that hive a fortnight ago and prompt measures timely taken would have saved me the loss, and, what I regret more, the feeling of having shown cruelty to animals, which hangs on my mind.

Breeding has begun in almost every hive, though on a very limited scale in most. The few flowers showing are crowded with a little army of bees, and they are seen in numbers along every ditch-side sipping up water. What a contrast to this time last year, when the earth was clothed in one mantle of white, and they were kept inside their hives for twelve long weeks. Forty-nine degrees of frost was registered the corresponding week, while now the thermometer has stood at 40 deg. and 50 deg. for several nights in succession. A query arises in my mind which the future must solve: Which season is most favourable to a good honey season? or, rather, Which most favours a full force of bees when the season opens? I confess to having grave doubts.

Last spring I noted the curious fact of drones being retained in one of my hives all through winter.

This year the same has happened, for on Saturday last one drone at least was flying freely at midday, and two fresh ones were thrown out dead. I noted with pleasure your paragraph in "Useful Hints" on the subject of new blood. It ought to receive far more attention than it has had in the past, and I trust your emphatic declaration will bring it to the front.—D. M. M., *Banffshire, N.B., February* 17.

EXCLUDER-ZINC.

"WHEN FOUND MAKE A NOTE OF."

[2424.] Since I made my *début* in your pages the old year has passed, and we are already well into the next, and soon bee-keepers will be busy with the work of another season. But before this I should like to say a word or two of things which came under my notice during the past season—my first with the bees. Now as to taking advice when offered. I would warn all who are, like myself, inexperienced in the craft, to diligently follow the advice given in the JOURNAL and *Record*. I didn't do so, and consequently found myself in trouble when there ought to have been none. We were advised in the June *Record* to "on no account omit using excluder-zinc between boxes and stock-hives, or the combs will most likely be found well occupied with brood where honey is wanted." I *did* omit the excluder, and consequently found my super well filled with brood. Fortunately, I was not working for comb-honey, so the mischief was not so great as it might have been. But I do not think that I shall omit it even under section-racks in future.

Time Occupied in Developing a Worker.—I was rather interested in Mr. Brice's remarks on page 374 *re* time occupied in developing a drone, as they greatly coincided with some experiences of my own with regard to workers during the manipulations of the above-named super. On examining the hive one day towards the end of July, I found a large quantity of brood, and a medium number of eggs in the super, and also eggs in the brood-chamber. As there was no unsealed brood down below, and the queen had been for a long time in the super, I concluded—being then unable to find her—that she had gone below; so I put on an excluder to keep her down there. I examined the super two days afterwards, but found no eggs, only sealed and unsealed brood in large patches, so she was evidently in the brood chamber, and the eggs must have been a day old when I first examined. No more eggs were laid in the super, as I verified by subsequent examinations; but when I examined the hive exactly three weeks after my first manipulation, expecting to find all the brood hatched in the super, as it was then twenty-two days from the time the eggs were laid, to my surprise I found that though much had hatched there were large patches still sealed, though nearly hatching. Upon this I closed the super, and did not look again for a week, when it was clear of brood. But it is evident that part of the brood took more than twenty-one days to develop, some probably nearly twenty-three. What this lengthened time is owing to I cannot say, unless it was the cold, rainy weather which prevailed when the brood was young.—E. TILLER, *Thornton Heath, Surrey, February* 15.

"MILK-CHURNS" FOR HONEY BY RAIL.

A LIGHT RAILWAY IN APIARIES.

[2425.] I think Mr. R. Few's idea of using railway milk-churns (2414, p. 64) for the carriage of honey an excellent one. I hope some appliance-maker will take the matter up, and supply us with a churn to hold 1 cwt., or a little more. I consider a 2 cwt. churn rather too heavy to handle conveniently. In any case it would be an advantage to have two sizes. The churns should be made very strong, and not too cheap. They would also be most convenient for keeping honey in for a time, and useful for putting in the copper should the honey require liquefying. I wonder if any English bee-keeper has tried a light railway in the apiary? Last year I constructed a wire one, to carry about 3 cwt., and found the saving of labour very great.

It is raised eighteen inches from the ground, and forms a kind of continuous table through

the apiary, which is very useful. In a new extracting-house I am building, I intend to make the trucks run right into the house, thus saving all unnecessary labour. Last year was a good honey year with us, our best hive yielded well over 200 lb. And I need scarcely say this hive was worked with excluder zinc. We do not experience any trouble with swarms, except when we are working for sections.—R. T. SHEA, *Southend, February* 17.

OLD COMBS OR NEW

FOR EXTRACTING HONEY.

[2426.] I have not the slightest wish to detract from the value of the opinions or practice of our esteemed Editors, or from that of any reader of the JOURNAL who thinks he has cause to act contrary to my own experience. Opposing forces hold together the universe, and do they not give us the best form of government? And so must we admit that varying experiences and friendly discussions in the attempt to adjust real or apparent differences constitute the real life of the JOURNAL.

Well, as to the severe strictures on my article as above (2390, p. 35) contained in the editorial of February 6 last, I may first say that my notes on the subject were made many weeks prior to the reply to the query mentioned as being made in the issue of January 2; and it was only through pressure of other matters that the articles were not sent in during the summer of 1895.

We have the candid, if somewhat absolute, opinion of the present Editors of the JOURNAL as to the value of new combs for extracting, and I am perfectly satisfied that opinion is given in good faith; but it is only fair to myself to publish an opinion expressed by a now deceased veteran of the craft, I refer to the late Mr. C. N. Abbott. At a local show, held where I then resided back in the seventies, the founder and for a long time Editor of this JOURNAL, took up a jar of my honey, and a conversation occurred something like this:—

Said our old friend, "That's nice, and remarkably clear!" "Not bad for a novice," put in a non-bee-keeper. And what did our pioneer reply? "He's no novice that can put honey up like that."

I need hardly say that, in accordance with my own practice, the honey in question was extracted from combs that had been through the brood-nest.

Looking at another side of the question, however competent a judge may be, he is liable to err, while conscientiously fulfilling his duties. A very serious instance of this kind came under my notice, where a genuinely honest exhibitor was disqualified because his honey was so white and clear that the judges declared it was fed from sugar. Now, that bee-keeper was and is one of the most successful honey-producers I have heard of in this country, and he had no need to feed sugar to get his surplus-chambers filled.

Well, I have had just such clear water-white honey. The purchasers of the comb-honey could not understand the delicate whiteness of the cappings. The extracted, when stored and granulated, would have a half to three-fourths of an inch of solid honey-sugar at the top, as white as any iceing on a cake. That honey, as clear as sparkling water before granulation, might possibly have shared the same fate as that before mentioned had it been exhibited. This, again, was extracted from so-called old combs; and such honey I expect to have more of in the future by the same process.

Looking at another aspect of this question, and referring to the query to which the said editorial draws attention, I find the quotation was given as follows:—"Simmins's 'Modern Bee Farm' says that "old combs are the most valuable stock-in-trade of the bee-keeper working for extracted honey." On page 112 of that work, I find my words are:—"Surplus brood combs are the most valuable," &c. Again, on page 129:—"Spare combs for extracting," &c. The term "old" is evidently misleading in this connection, but I am compelled to state that in producing honey on a commercial scale the producer cannot dispense with these surplus combs; he cannot produce a paying or general average crop from one brood-chamber; and, wherever the large producer is found, a good stock of these spare combs will be seen in his possession.—SAML. SIMMINS.

[We are quite in accord with the view of the late Mr. Abbott as quoted by our correspondent, but cannot see that it has any bearing upon the question discussed.—EDS.]

DEATH OF MR. BALDENSPERGER, SEN.

[2427.] It is some time since I have written to you, and am sorry to be obliged to announce you very sad news to our family, my beloved father departed this life on January 20, at the age of seventy-two. It is through him, that my brothers became bee-keepers. He had kept bees in the Palestine clay cylinder-hive for many years, in the Zion Orphanage at Jerusalem, and there he became acquainted with the Rev. Oxley who first told him of the existence of the B.B.J., the first bee-paper he ever saw. Mr. D. A. Jones was introduced to my father, and it is from his apiary the first Palestine bees were exported. Frank Benton also visited him, and in consequence of this visit, I took to bee-keeping. My parents had lived in the Orphanage of Mount Zion for forty-five years, and it was very hard for them to be obliged to leave the place for younger forces, my poor father only outlived the change for little over two months, leaving my sorrying mother at Urtas, a small village inhabited by

Mohamedan Arabs on the border of the desert of Judea.—P. BALDENSPERGER, *Nice, February* 2.

PRESENTATION TO CAPTAIN CAMPBELL.

An interesting—but quite informal—gathering of a few Surrey bee-keepers took place at the residence of Captain Campbell, H.M.I.N., on the 3rd inst., the occasion being the presentation of a silver tea service to that gentleman as a testimonial of personal regard, and for his untiring efforts for many years past on behalf of the Surrey Bee-keepers' Association. Captain Campbell was actively connected with the Association from 1879 to 1895, had filled the position of hon. treasurer and hon. sec. for the greater portion of the time, and only now resigned because of advancing years, and the consequent need for repose from active labour.

The presentation was made on behalf of the subscribers by Arch. Seth-Smith, Esq., of Silvermere, Cobham, and the venerable recipient expressed his gratification at so kindly an appreciation of his efforts on behalf of bee-keepers.

Queries and Replies.

[1424.] *Beginners and the "Wells" Hives.*—Having made a "Ford-Wells" hive, I should like to be beforehand in necessary ideas for management of same. We will assume that the brood-chamber is flourishing, and, in fact, waiting for supers or shallow frames as the case may be, and I ask—1. Is it absolutely necessary to have queen-excluder zinc? I don't mean on account of cost of same, which is very little, but some do not like using excluder zinc, as they say bees do not so readily go up as when there is none there. 2. I have a friend that has four ordinary hives, and he never uses excluder zinc, but he has good sections, and only on one occasion did he ever find the queen among the sections. But the "Ford-Wells" being a double hive containing two queens, I suppose the precaution would be the more necessary.—JACQUES, *Dorset.*

REPLY.—One object we have in printing the above query in full is to show the need for those who venture to take in hand new or special systems connected with bee-keeping to make themselves more or less acquainted with the principles upon which such "system" is based. This our correspondent obviously has not so far done, and we must once more state our opinion that the double-queen system, *i.e.*, of working two queens in one hive, is not suited to novices in bee-keeping. In fact, it is nothing less than courting failure to make a "Ford-Wells" or a "Wells," or any other hive adapted to the system without first acquiring the knowledge necessary for its proper management. Having said this, we reply to queries as follows:—1. Without excluder zinc, the hive must be worked as two distinct stocks, and supered accordingly. 2. The use of excluder zinc is, in our opinion, a matter of choice when working for sections, but with shallow frames for extracting it is indispensable.

[1425.] *The Wells System.—Chemical Properties of Honey.*—1. Is the "Wells" system on the whole growing in favour among bee-keepers? 2. What are the chemical properties of honey? 3. What are the best vessels in which to keep honey stored? Wooden I suppose absorb. 4. Do you advise Canadian feeder to be used in spring for weak stocks in frame-hives?—FRANK SMITH, *Stoneham, Glos., February* 7.

REPLY.—1. It is not easy to say. What we know of it is mainly gathered from what has appeared in our pages, and judged in this way the "system" seems to be very successful in the hands of careful bee-keepers who are thoroughly up in the management and handling of bees—in fact, men like Mr. Wells himself. On the other hand, we do not consider it suitable for beginners, though some of them have done well with it, as their reports show. 2. The chemical equation of honey is as follows:—

$$\left.\begin{matrix}\text{Dextrose, } C_6H_{10}O_5\\ \text{Levulose, } C_6H_{12}O_6\end{matrix}\right\} = C_{12}H_{22}O_{11}$$

The constituent parts as under:—

Water	—	22·0
Crystalline (dextrose)	...	38·0
Vitreous (levulose)	...	36·0
Mineral matter	...	0·2
Wax, pollen, &c.	...	3·8
		100·0

3. Earthenware or tin. 4. No. A slow feeder and soft candy is preferred, using both with weak stocks.

Echoes from the Hives.

Honey Cott, Weston, Leamington, February 17.—Truly, this winter has been remarkable (thus far, at all events) by its mildness, so that the bees have not been many days continuously in confinement. During the last fortnight here they have been out nearly every day, visiting their watering places, and some places not theirs, such as a water-butt used for household purposes, standing in a sunny, cosy spot. This watering-place had to be covered over to keep the bees out, and save them from drowning. I have examined a few stocks here and there, and find them well provisioned for the present. I was sorry to notice that Friend Brice, on page 12, speaks rather disparagingly of the Carniolans and

their crosses, his experience being quite contrary to mine. I kept Ligurians for many years, but after getting some pure white banded Carniolan queens I let the others gradually run out.

Referring to the question of old brood-combs versus new virgin-combs for extracting, I must say that I very much prefer new combs, or at least such as have never had brood in them. I have had some of the latter in use every season for years past, and they are as good now as ever.—JOHN WALTON.

METEOROLOGICAL SUMMARY.

JANUARY, 1896.

Locality, Stoke Prior, Worcestershire.

Height above sea-level, 225 ft.

Rainfall, 0·58 in. Greatest fall in 24 hours, 0·27 in. on the 24th.

Rain fell on six days.

Max. shade temp., 50° on 1st, 15th, 17th, and 25th.

Min. temp., 20° on the 19th.

Max. shade temp. at 9 a.m., 49° on the 1st.

Min. temp. at 9 a.m., 20° on the 19th.

Frosty nights, seventeen.

Max. barometer, 30·7 on the 9th.

Min. barometer, 29·52 on the 14th.

An unusually mild month. Bees flying nearly every day. Primroses out in full bloom the second week, and a crocus the third week. Barometer very high during the month. Stores in some of the hives getting low.—PERCY LEIGH, *Beemount*.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

REV. F. W. TOMS (N. Devon).—*Transferring Combs from Large Frames into "Standards."*—1. With such combs as contain no brood, set a Standard frame on one to be transferred, and pass a sharp knife round the inside so cutting the comb beneath that the piece when removed will fit tightly into the new frame when pressed. Tie it with a couple of narrow tapes passed round the comb and frame outside. After the bees have been on the combs a day or so the tapes may be removed. Reject all misshapen combs and those with drone-cells. With combs containing brood the greatest care must be taken to avoid chilling the larvæ in the cells, as well as against damaging the cappings of sealed cells. The transferring must in the latter case be done indoors in a very warm room and the comb laid on soft warm flannel. 2. Foundation is fixed by running a little melted wax along the junction between the foundation and the wood of section, or it may be pressed into position with a warm flat-iron. Sections are now made with a split top-bar for reception of the foundation, and this renders fixing easy and simple.

A. B. (Studley).—*Uniting Bees in Double-stocked Hives.*—If both lots of bees are weak they may be united by removing the division board. If, however, they have good queens, both may be nursed into profitable stocks before the honey season begins. Should the hive contain frames, they might be left as at present, and worked on the "Wells" system by admitting the bees into a surplus chamber common to both lots.

R. ROBERTS (Ainsdale).—*Buying Second-hand Hives.*—We find no trace of brood at all in the pieces of smashed-up comb received. When, therefore, in addition, the hives have been so thoroughly disinfected as proposed, there should be no risk in using them. A stock of bees distant one mile away may be removed at any time before active work begins in spring.

G. ROOKE (Salisbury).—*Transferring Bees in Frame-hives.*—If a new hive is prepared with its frames fitted with full sheets of brood foundation, and the old hive now containing the bees is set above this, the stock will transfer the brood-nest into the new hive as soon as room is required for breeding. To carry out this method of transferring in the most advantageous way, the old hive should not be set above the new one until such time as the population of the former is perceptibly increasing, say, at the end of March. Then prepare a covering—of American cloth, for preference—for frames of new hive, having a hole in centre about 6 in. square. Set the new hive on the old stand, then place the stock for transferring above, and pack the junction of both hives for warmth.

SHIELAH (Brighton).—*"Homocea" for Bee-stings.*—Our correspondent writes of having personally proved this preparation to be "a wonderful remedy for bee-stings." Perhaps some other of our readers will have an opportunity of testing its efficiency in the coming season, and will report its effects.

C. WADLAND (Exeter).—The comb received is affected with foul brood, and, in view of this, it is perhaps fortunate that the bees have died. The frames, combs, and contents, including honey, should be burned, and the well disinfected before using again. The other stocks will need careful watching to see that they are healthy.

J. R. TRUSS (Ufford Heath).—The address of the secretary British Bee-keepers' Association appears on page 71 of this issue, and also in reply to John A. Carrington, Junior, on page 70 last week.

C. MARKS (Kingsbridge).—*Suspected Comb.*—Comb received contains nothing worse than a few cells of mouldy pollen, which the bees will set right in due season.

Editorial, Notices, &c.

"MUZZLING THE BEES."

BEE-KEEPING AND THE DAILY PRESS.

It has been our task more than once to offer a word of comment upon the unreliableness of reports which have appeared from time to time in the columns of the daily Press concerning bees and bee-keeping. Nor have we been unmindful of the assistance rendered to the pursuit, to which the BEE JOURNAL is devoted, when articles have appeared tending to arouse public interest in, and sympathy for, a minor industry intended to afford help to a class sadly in need of assistance. It is, however, with the first-named tendency that we now feel impelled to deal, because of the evidence afforded by reports of a recent meeting in which bee-keeping is the subject dealt with. It would seem as if the high intelligence—apart from a simple common-sense view—possessed by Press-men as a body not seldom fails to display itself when "bees" are talked about. We admit that so purely technical a subject as advanced bee-keeping is best left alone by those not conversant with it, but the pursuit has of late been favoured with much attention in the Press, and this tends very largely to increase the interest taken in it by the public. Consequently it becomes more than ever desirable that whatever is stated in print concerning bees should be as nearly correct and reliable as may be, otherwise harm and not good will be done to the craft by publicity.

We write thus in view of the large number of press-cuttings received from various quarters within the last few days, all dealing with the "question"—very appropriately so-called—of "muzzling bees." We do not, as a rule, care to occupy space in our columns by reprinting the amusing sallies of Press-men whose "line" is of the lively order, or of those who—to quote Dick Deadeye—"mean well, *but they don't know*." This particular question, however, has been so very "variously" handled in the Press—according to the extracts before us—as to be misleading in the highest degree to the ordinary reader; in fact, we confess to the danger of getting a bit "mixed" ourselves over them.

The first cutting sent us was from the *Newcastle Daily Leader*, which says:—

They are going to muzzle bees. At least, that is the impression we gather from the proceedings of the annual meeting of the Surrey Bee-keepers' Association. The bees, it seems, have got rabies, or something like it, and, in place of venting their wrath on the rearward abutments of unsuspecting schoolboys, have taken to biting or stinging each other. The result is that the disease, whatever it may be, is rapidly spreading, and the supply of honey is thereby threatened. The Board of Agriculture has been appealed to in connection with the matter, but that department is at present too much engrosed in devising ways and means of relieving the starving landowner out of the surplus to devote any time to the misguided insects. Bee-keepers, therefore, propose to look after themselves, and Mr. Halsey, chairman of the Surrey County Council, sketched a plan of campaign. He announced that it is intended to muzzle the bees, though he did not inform his hearers which end of the busy insect was to be muzzled, and for the present the muzzling is only to be voluntary. Should the voluntary action fail, however, he is prepared to draft a short Act by means of which bees would be placed under the same laws as dogs, and muzzling would be made compulsory. Of course, it is eminently desirable that bees suffering from hydrophobia should be prevented from careering over the country seeking whom they may devour, as it were, but we imagine that the carrying out of such an order would be attended with considerable difficulty. Having got the muzzle placed upon the loaded end of the fiery untamed bee, how is it going to be kept there? And then, how is a muzzled bee going to improve each shining hour, as he is in duty bound to do if he is not to lose his reputation?

The above, of course, comes within the "comic" line of treatment, and can be understood as such, but when we have leading morning journals like the *Standard*, *Daily News*, and *Telegraph* reporting the meeting referred to, we are on less safe ground. We learn from the *Telegraph* that—

Another and minuter branch of creation is also suffering from a malady which may or may not be akin to rabies. At all events, it threatens to interfere with the supply of honey. It appears from the proceedings of the first annual meeting of the Surrey Bee-keepers' Association, held at Kingston-on-Thames, on Saturday, that a mysterious disease is extremely prevalent among bees in the county, and the insects impart it to one

another by bites? The honorary secretary asked all apiculturists to take every step possible to stamp out the murrain, and the president, Mr. Halsey, chairman of the Surrey County Council, announced that it was intended, if possible, to muzzle the bees in order to get rid of the disease. For the present this could only be voluntary, as bees hitherto had not been the subject of legislation, but it was proposed to draft a measure to give them the honour of an Act of Parliament, if Lords and Commons were so disposed, under which a muzzling order for them would have the same authority as for dogs. The Board of Agriculture had been approached on the matter, but was unable to find time to study it. The difficulty will, of course, be to get the muzzles on the insects, and to keep them in the proper place.

The reports of the *Standard* and *Daily News* are synonymous, and altogether in a serious vein, as under :—

The first annual meeting of the Surrey Beekeepers' Association was held on Saturday afternoon, at the County Hall, Kingston-on-Thames, Mr. E. J. Halsey, chairman of the Surrey County Council, presiding. Lord Onslow was elected president of the society, and Mr. St. John Brodrick, M.P., Mr. Bucknill, Q.C., M.P., Mr. Skewes-Cox, M.P., Mr. C. H. Combe, M.P., and the Hon. H. Cubitt were among the vice-presidents. Mr. Jacomb Hood, the hon. secretary, in the course of a few remarks, said the disease among bees known as foul brood was rampant in Surrey, and it behoved every bee-keeper to work hard for its extermination. He was glad to notice that it had been recognised by the Surrey County Council, and that they were in a fair way to stamp the disease out by legislation or otherwise. The Chairman said it was intended, if possible, to muzzle the bees, so that the disease to which reference had been made might be stamped out, and they hoped the Board of Agriculture would be induced to take prompt action in the matter. Mr. William Welch said a committee of the British Bee-keepers' Association had seen the Secretary to the Board of Agriculture two or three times on this important matter, and had been received very sympathetically. That department had, however, so much work to do this session that they could not undertake to bring in a Bill at present.

Beyond the repetition of the "muzzling" order there seems nothing savouring of the "jokist" in the above, but the *Evening Standard* gives that particular specialist a turn, and accordingly we are informed that—

The first annual meeting of the Surrey Beekeepers' Association was a memorable event. It appears that the disease known as "foul brood" is playing havoc in the county. We all know the name of that infliction, and there are even persons here and there who can explain its mysteries. Among them is the hon. secretary of the Association. He has not only mastered the secrets of the plague, but, as becomes his honourable office, he has also divined a remedy. It may perhaps have been suggested by an order of the County Council which has been agitating Surrey for the last few months. Anyhow, the gentleman declares that "it is intended, if possible, to muzzle the bees." These words of caution, "if possible," seem very judicious to the uninitiated. They cannot begin to fancy how the operation will be performed. Fleas have been harnessed, no doubt, and have drawn vehicles up and down a tea-tray. Popular legend asserts that they have even fired guns, but it confuses them perhaps with canaries, a much larger bird which performs occasionally. Bees are ever so much bigger than fleas, but the head is more difficult to manipulate than the legs. And the tail has to be considered. It would be best, perhaps, to begin by muzzling the tails; experiments might then be tried upon the head. Then how many bees are there in a hive? It might be exaggerating to say a million or two; but there are quite enough at least to furnish a whole series of exercises in arithmetic for the Surrey Board Schools, when the time needed, the number of hon. secretaries and others to be employed, the cost of muzzles, &c., come to be estimated.

Bee-keepers, like other people, must, of course, put up with the poking of a little harmless fun like the above at their expense; but our complaint, in this case, is that it is so exceedingly hard for general readers, who are not bee-keepers, to see exactly what part of the business is to be taken seriously and just where the joke comes in. Moreover, if those who report the proceedings do not themselves know where to draw the line, why don't they say so, and hand over their "copy" to the funny man for treatment?

Anyway there are sound reasons for thinking that some discrimination is needed, seeing that even bee-keepers themselves may be led astray along with papers not given to either frivolous badinage or comic pars. We, therefore, close our quotations with the following communication from a reader of this Journal—

Bristol, February 20, 1896.

DEAR SIRS,—In the *Christian World* of to-day's date appears the following: — "A mysterious disease has broken out among the bees in Surrey, and threatens to affect the

honey harvest. It is akin to rabies, for the insects impart it to one another by bites!"

Can you throw any light upon it? A reply in your next issue will oblige.—Yours, C. H.

Our observations would be incomplete without some reference to the origin of the—shall we call it "muzzling" joke. And we are, fortunately, able to state exactly what took place, our information coming direct from a gentleman who was present.

It appears that the Chairman, in the course of his remarks, mentioned the active part taken by the Surrey County Council in obtaining protection against rabies, by the recent muzzling order for dogs; and—referring to the protection sought by bee-keepers against foul brood—jocularly observed, "We are now going to muzzle the bees." Our readers may guess the rest, and we hope this statement will allay this "storm in a tea-cup."

BRISTOL AND DISTRICT B.K.A.

The Bristol and District Bee-keepers' Association held its annual meeting and soirée on the 15th inst., at Stuckey's Restaurant, Wine-street. About 50 members and friends sat down to tea, under the presidency of Capt. J. B. Butler, after which the business portion of the proceedings began. Mr. James Brown presented the seventh annual report, which stated that the result of the year's work was decidedly satisfactory, and the committee heartily congratulated the members upon the vitality and growth of the association. The present membership stood at 260, and there were 233 names on the subscription list last year. The total number of members who had joined the association that year was 81; but they had to record the resignation of 21 on account of leaving the neighbourhood, &c. The committee regretted having to report a small debit balance due to the treasurer of £1. 3s. 9d. Their thanks were again due to the Bedminster and Clevedon Technical Education Committee for the grant of £5 towards the furtherance of their work. Lectures had been given at Knowle and Chew Magna, and others were being arranged for. The report having been adopted, and votes of thanks given to the president and retiring officers, Lady Smyth was re-elected president, and a number of influential gentlemen appointed vice-presidents. Miss Dawe was re-elected hon. secretary, in conjunction with Mr. J. Brown. Miss Dawe was also appointed treasurer. The proceedings were interspersed with music, and an enjoyable evening was passed.—(*Communicated*).

FOUL BROOD AND ITS TREATMENT.

(*Continued from page* 74.)

NATURE OF FOUL BROOD.

It was at one time supposed that only the brood or larvæ were attacked by the disease, hence the name "foul brood." But Hilbert's investigations in 1875 enabled him to state that it was not only a disease of the brood, but that the mature bees—sometimes including the queen—were liable to be affected by it. In consequence of this the disease is sometimes called "Bee-pest."

In a healthy hive the brood in the combs lies in compact masses, and the larvæ are plump, of a pearly whiteness, and when quite young lie curled up at the bottom of the cells much in the form of a C. When a hive is attacked and the disease begins to develop, the affected larva commences to move unnaturally; instead of lying curled up, and being plump in appearance, it becomes extended horizontally in the cell and has a flabby aspect, which indicates death. The beautiful pearly whiteness of the healthy larva now changes to a pale yellow colour, afterwards turning to brown; then the dead larva begins to decompose. Although bees remove ordinary chilled or dead brood from the hive, they do not usually attempt to carry out that which has died from disease, except under conditions which we shall presently mention. As a consequence, the decomposing larva eventually shrivels up, and nothing remains but a dry brown scale, which adheres to the side of the cell.

We would here note that chilled brood should not be mistaken—as it very frequently is—for foul brood. In the former the dead larvæ turn first grey, and afterwards become nearly black (never brown, as with foul brood). The dead larvæ are also generally removed by the bees.

When the larvæ die after the cells have been capped over, cells here and there will be found with cappings indented and darker than those of healthy brood. The cappings, too, are frequently perforated with irregular holes, as seen in the illustration, fig. 1. On removing the capping from a cell and inserting the end of a match, the latter, on withdrawal, will have adhering to it, as a putrid, ropy, tenacious, coffee-coloured mass, all that remains of the dead larva, often (but not always) emitting a most disagreeable stench. Eventually this mass dries up, and nothing but a dark-brown scale remains. Later on the bees become inactive, to a great extent losing their desire to fly abroad, and numbers will be seen fanning at the hive mouth, from which in very bad cases the disagreeable odour mentioned is emitted, the smell in extreme cases being noticeable at some distance from the hive.

LIFE HISTORY OF *Bacillus alvei*.

It will only be necessary to give a brief outline of the life history of *Bacillus alvei* to

enable us to understand somewhat of the nature of this disease.

Bacillus alvei is a pathogenic or disease-producing micro-organism, in form cylindrical or rod-shaped, and increasing by splitting or fissuration. The rods increase in length without growing thicker, and at a certain point divide and separate in two, to again increase, divide, and separate. Sometimes, in suitable nourishing media, the lengthening of the rod is not accompanied by separation, but only by repeated division into longer or shorter chains of bacillus-filaments, or leptothrix. The rods are also provided with a flagellum at one end, and are endowed with the power of locomotion. Under certain conditions bacilli have the power of forming spores, in which case a speck appears at a particular point of the bacillus, which gradually enlarges and develops into an oval, highly refractive body, thicker but shorter than the original rod. The spore grows at the expense of the protoplasm of the cell, which in time disappears, setting free the spore. The latter formation closes the cycle of the life history of the bacillus. The spores—representing the seeds—retain the power of germinating into bacilli when introduced into a suitable nourishing medium, and at a proper temperature, even after the lapse of long periods of time. At germination the spore first loses its brilliancy, swells up, and eventually its membrane bursts in the middle. The inner part of the spore then projects through the opening, and grows to a new rod.

The spores also possess the power of enduring adverse influences of various kinds without injury to their vitality, so far as germinating is concerned, even if subjected to influences fatal to bacilli themselves. The latter are destroyed at the temperature of boiling water, while the spore apparently suffers no damage at that temperature. Freezing also kills the bacilli, but not the spores. In the same way chemical reagents, completely destructive of the bacilli, do not affect the vitality of the spores. Carbolic acid, phenol, thymol, salicylic acid, naphthol beta, perchloride of mercury, and many other substances, even when considerably diluted, prevent the growth of bacilli, but have no effect whatever upon the spores. The great resistance of spores to high and low temperatures, to acids and other substances, is due to their being encased within a thick double membrane.

There are certain chemical substances which evaporate at the ordinary temperature of the hive, and whose vapours, while not actually killing the bacilli, arrest their increase or growth. Amongst such substances are carbolic acid, phenyl or creolin, lysol, eucalyptus, camphor, naphthaline, and several others.

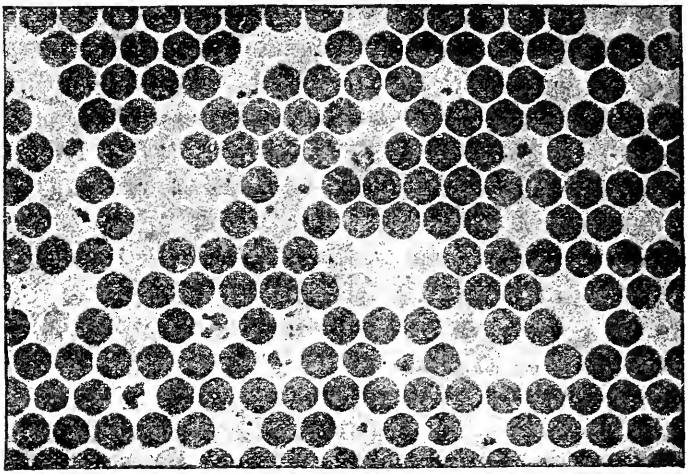

Fig. 1.—*Foul Brood in an advanced stage.*

If a healthy larva be taken, and a small quantity of the juice from its body spread on a glass slide be placed under the microscope, we shall see a number of fat globules and blood discs (Fig. 2), amongst which molecules are in constant motion. If, on the other hand, a young larva diseased, but not yet dead, be treated as above, its juices will, when subjected to a similar examination, be seen to contain a great number of active rods swimming backwards and forwards amongst the blood discs and fat globules, which latter, as will be noticed (Fig. 3), are fewer than those in the juices of a healthy larva. We shall also find, as the disease makes rapid progress, chains of bacilli—the leptothrix form—becoming common. In Fig. 4 we have a representation of a later stage of the disease when the larva is dead and decomposing. Here the fat and albuminoids will be found disappearing, and the bacilli assuming the spore condition. In

Fig. 5 we see the disease in its latest stage, when the whole rotten mass has become coffee-coloured, or has dried to a scale. Blood-discs, fat globules, and molecular movements have disappeared, only a few bacilli are seen, and at last, as the nourishing material becomes exhausted, only spores remain.

It will now be understood that, owing to the great resistance of the spores, chemical substances have no effect at all upon them unless administered under such conditions as would destroy the bees. From this it will be seen how great is the difficulty in curing foul brood unless the disease is attacked in its earliest stages.

It has previously been stated that adult bees are sometimes attacked by the disease. To prove this, it is only necessary to take a weakly bee on the point of death, and examine what remain of its fluids under the microscope, when a large number of active bacilli will be found. Such bees leave the hive to die, whereas the infected larvæ remain in the cells, unless disinfectants to arrest decomposition are used, in which case the bees remove them from the hives.

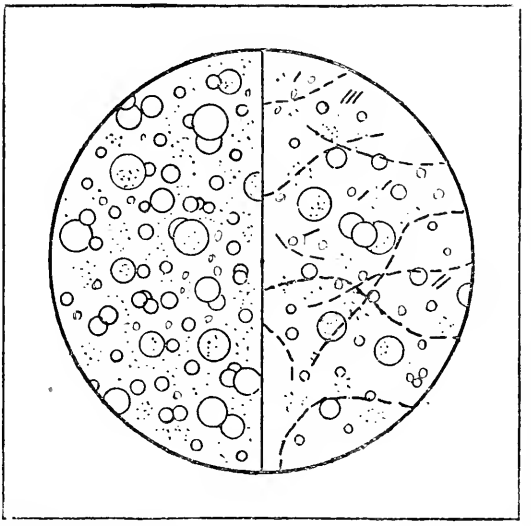

Fig. 2.—Healthy Juices. *Fig. 3.—Early Stage.*

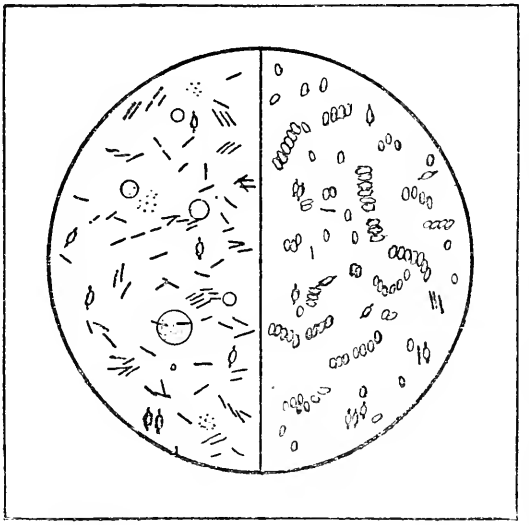

Fig. 4.—Later Stage. *Fig. 5.—Last Stage.*

CAUSE OF THE DISEASE AND MEANS OF ITS PROPAGATION.

Although many theories have been advanced, the causes of the disease are not yet quite known. Experience has, however, plainly shown that with foul brood—as in all epidemic diseases—the weak, sickly, and badly nourished are attacked and become centres of infection to others. So rapidly does the disease spread by contagion that in one season, unless precautions are taken, a whole neighbourhood may become seriously affected.

Combs which have contained foul brood retain the spores. The queen lays eggs in the cells and the workers deposit their honey and pollen in them. Both honey and pollen in this way become vehicles for the transport of the disease to the larvæ in the process of feeding these by the nurse-bees. The workers in endeavouring to clean the combs scatter the spores, which may also be driven out of the hive by the current of air produced by the fanners at the entrance, in their endeavour to rid the dwelling of the foul odours.

As colonies become weak, bees from healthy hives rob them, and thus carry off the germs of the disease along with their ill-gotten gains. Bees in straw skeps often die without the owners knowing why, and as these skeps are frequently allowed to remain on their stands, in the hope of catching a stray swarm, the result may be imagined. Formerly, when few bees were kept, and these in the same garden, and swarms seldom sold out of the neighbourhood, it was possible to keep foul brood within bounds by destroying the bees. Now, however, the facilities for its propagation are greatly increased by the large traffic there is in bees. The bee-keeper even may himself be a cause of spreading the pest by indiscriminately manipulating first diseased and then healthy hives without taking proper precautions to disinfect himself or his appliances. Bee-keepers also, who have not succeeded with their bees in consequence of foul brood, have been known to sell by auction hives in which the bees have died, without the slightest attempt at disinfection on their part, the purchasers being frequently beginners who have no idea of the danger they are incurring.

(Concluded in next issue.)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department reports of Associations, Shows, Meetings, Echoes, Queries Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C." (see 1st page of advertisements).*

NOTES BY THE WAY.

[2428.] Weather in West Berks still dry and mild; slight frost this morning (24th), and wind veering towards the N.E., which may be the prelude to colder weather. Bees have been busy foraging on the few flowers in bloom. I was at my out-apiary and noticed fairly good loads of natural pollen carried in on Friday last on which day it was quite as warm as it frequently is in May or June. I also transferred two colonies into empty hives from "makeshifts" in which they have wintered and saw good-sized patches of brood. My smoker went out and I was in consequence inoculated in the region of each eye at the same moment with bee-poison. These were the first stings of 1896; it caused no inconvenience except the pain for a few moments. *Re* new combs, when I endorsed Mr. Simmins' assertion, on page 43, I had no idea that I was impugning an editorial foot-note, and the reference to the matter in this light was a surprise to me, so that along with Mr. S., I can say that in mentioning the value of combs for extracting which had been used previously for breeding I had no wish to impugn our editors' view of the matter.

"Northants" may fancy that judges can detect sections of honey that have been, say, filled with built-out comb of a previous year from sections filled with combs of the current season, but I myself do not think a majority of a jury of judges would be able to "spot" any difference in the honey, provided the sections were all of equal cleanliness. Neither do I think that "Northants" would be able to detect any difference between honey stored and extracted from my old combs in shallow-frames—which erstwhile did duty below, and have for some years been used in the shallow-frames *above*, and honey extracted from my best sections of newly-built combs gathered at the same time.

Feeding.—Where stores are running short (and in stocks fairly provisioned last autumn I found such to be the case when taking a peep last week) a large cake of candy should be given at once over the brood-nest; and if the cluster is not in centre of hive, cut a hole in the quilt and invert the cake over the cluster, then carefully wrap up again to prevent any escape of heat from the brood-nest through ill-fitting quilts and wraps.

Wind-breaks are useful when bee-hives stand on high ground in exposed places, and also as a means of causing the bees to fly higher in the summer. This is needed when the apiary adjoins the highway on which there is much traffic; not from fear of passers-by getting stung, but to disarm the fears of neighbours that such may be the case. I mention this just now, so that others similarly situated to myself may have the advantage of planting in good time, say, a row of Jerusalem artichokes along their roadside boundary. These will be up a good height before the bees get troublesome, and in good ground they grow tall enough to make the bees fly so high above the heads of pedestrians that no notice is taken of the proximity of the apiary except the merry hum of the workers. These free-growing plants also form a good shade for hives in the tropical heat of July, and, after once planting, there is no further trouble in renewing. Don't forget to plant seed of the hardy annuals frequented by bees, also a free-sowing of wall-flowers, and some seed of the sunflower. These latter will make almost as good shade plants as the artichokes; besides proving more picturesque to the bee-keeper and attractive to the bees. If one-half what I read a time ago, viz., that each sunflower was capable of producing a pound of honey, it is worth thinking of, friends. Why, if the statement was true, a small farm of sunflowers would supply honey for a large farm of bees!

I was sorry to notice the deaths of Mr. Ward on p. 63, and of Mr. Baldensperger, senior, in last week's issue. I have read many of the latter gentleman's articles in the American bee-papers; and in Mr. W. I personally lose an occasional correspondent and customer. Truly the majority have passed beyond our ken! Every year some of our loved and honoured co-workers drop out of the ranks, leaving our pages the poorer for want of their active sympathy and kindly advice.—W. WOODLEY, *Beedon, Newbury.*

BEES IN HERTS.

A GOOD HONEY DISTRICT.

[2429.] The few particulars I promised to send about my hives are as follows:—One is a twenty-frame hive, which I have had working for four years. The stock in it I worked down into it the first year from a skep, and the total honey got from it that season (1892) was about 70 lb., including contents of the skep. The next year I got about 100 lb., and the third year 140 lb., while in this last year of 1895 the total yield was 226 lb. The other hive (a fifteen-frame one) contains a stock taken from a small hive, from which I never could get a yield of more than 50 lb. in one year. The first year after its removal the

total yield was 90 lb., the next year 126 lb., the third year about 100 lb., and in 1895, 202 lb. Of course, during the whole four years I have used an extractor, but never extract from any combs which contain brood, nor do I extract before the combs are sealed over, excepting a very little at the end of the season, when all chance of their being sealed is past. My method of gauging the return is to weigh everything put into the hives, and everything taken out, and then strike a balance, the result of which is the yield quoted above. I have never done any feeding from necessity, but I always let the bees have the sticky refuse to clean up after extracting, and this last year I gave them a few frames of old honey which had candied before I had time to extract. I think there were about seven or eight of these, and I placed them in the near vicinity of the hives for the bees to empty. At the height of the season of '95 I had on the largest hive two lifts, one containing twenty standard frames, and the other twenty shallow frames. On the smaller one there were two lifts, each containing fifteen standard frames, and there was also a crate of sections. With regard to pollen in combs, I found a few frames of it at the bottom of the hives at the end of the season. I have hardly ever had swarms (none at all in '95), and when they have come off I have put them back. The queens in neither hive have been changed by me during the four years referred to. When packing for winter, I could not get the bees of the large hive on to less than sixteen frames; those of the smaller one occupying thirteen frames, and this was on a frosty day. I also calculate that I left in the large hive about 45 lb. of honey in the combs, and in the smaller about 35 lb. These amounts are not included in the totals for the year, as is sometimes done. I should also say that when the hives had on the greatest number of frames they appeared quite full of bees.

I have only dwelt upon results, and have not touched on management at all, but simply jotted down the facts as I thought of them.—W. H. Brawn, Jun., *Corbar, St. Albans.*

PREVENTING SWARMING.

[2430.] Referring to the letter of Mr. Hall [2398, p. 45], advising "Bee-Cycle" to take a lesson from the bees to prevent swarming by using very large frames, I have for many years used hives holding twenty standard frames besides giving room for sections above, and with proper systematic management I have reduced swarming to about one hive sending out swarms in ten years. How far "Bee-Cycle," or others who have their bees close at home, and plenty of time to see after them, may get an increased crop of honey with their system I cannot say, but we get an average quantity for our district when the season is right. Those having the care of bees located two or three miles from home, and only able to see them once or twice a week at stated times of the day, will find it advantageous to reduce swarming to the lowest possible pitch, even if we do not get quite so much honey per hive as those in more favoured circumstances.—A Postman.

BEE JOTTINGS.

A BUNDLE OF "DON'TS" FOR THE EARLY SEASON.

[2431.] Don't forget that summer is fast approaching and with it the fact that very many things will be required which should be well thought out, bought, or made without delay.

Don't forget that this is pre-eminently the time of year to study and complete our education by reading good, sound bee-literature, and to lay out plans for the coming season.

Don't—for the reason that you possess a few "wrinkles" on bee-keeping—think you know all about it, because there are yet a good many things to be learned about bees, and the man who shuts his eyes to the future will be left behind.

Don't neglect to have soft candy—made in the proper way and with the right kind of sugar—ready to slip on during the first mild spell, if any of your stocks are not known to be well supplied with food.

Don't—under the impression that your bees are quite free from disease—neglect to medicate all food given. It is easier to prevent than to cure.

Don't, when another is in difficulty, think it too much trouble to render whatever little assistance you can to any bee-keeper less experienced than yourself, and if you need advice or help don't feel it *infra dig.* not to know, but rather ask help than go wrong. Then, if no help is available, drop a line to the B.J. office, our editors won't mind. *Experto crede* is a safe maxim in this case.

Don't, under any circumstances, get it into your head that a living is to be made out of bees alone, because—in this country at least—you can't.

Don't—if a beginner—spend more money on bees than is absolutely necessary to start properly with one or two colonies, until you have learnt how to manage them, found out their little peculiarities, and the ditto ditto of your districts.

Don't fail to take every precaution by way of guarding against disease among your bees. Keep them healthy and strong, remembering that one strong stock is worth four or five weak ones.

Don't buy cheap appliances just because of their being "cheap," such are too often "nasty."

Don't spend time during your noviciate days as a bee-keeper in finding out something to "patent" in bee appliances. Leave it to old hands to find out what is really worth

spending money to protect, and note how seldom they succeed.

Don't undervalue the adage about putting off till to-morrow that which can be done to-day. To do so in bee-keeping works out badly, and speedily shows one why bees don't pay.

Don't open a hive for the sake of doing so, but always have an end in view; when once under manipulation don't shut it up until you have satisfied your mind that you have attained that end, and don't crush the bees, and especially "mother," in doing so.

Don't expect good results from colonies headed by old or inferior queens.

Finally, should your efforts be crowned with success, and you secure a big harvest, don't rush it on the market when prices rule low—don't forget that honey will keep.—H. W. Brice, *Thornton Heath.*

BEES IN IRELAND.

A WORD ON SELF-HIVERS AND THINGS GENERAL.

[2432.] Though taking a keen interest in the discussions reported in the Bee Journal, time does not permit me to take a part in them, but I cannot refrain from expressing my entire concurrence in what is said on pp. 35 and 43, *re* Old *v.* New Combs for Extracting. I have seen some beautiful samples of honey taken from comb that had cradled perhaps six or eight "clutches" of brood, but not taken direct from the brood chamber to the extractor. In working a stock for extracted honey, my method for many years has been, if I succeeded in stimulating a stock to cover ten frames with bees and eight or nine with brood by the first week of May (or second in late seasons), I removed the frames of brood from the body-box and put them (bees and all) in a surplus chamber overhead, substituting frames fitted with full sheets of foundation. I next got the queen down below, and then set on a piece of excluder on the frames, leaving half an inch all round uncovered by it, so that the bees streaming up the sides would not be obstructed by it. By this plan I was able to calculate on a tea-chest full of bees by the middle of June, when the clover covered the land like daisies, and I frequently secured 200 lb. of honey from a stock so managed, never once in five years having to feed. My late honey was always bad, and none was of very good flavour, but this was not due to the old combs, as splendid samples were secured in other apiaries worked similarly. I think, with careful management, zinc will be found unnecessary so far as covering over the entire hive with it, and the chances are, if the queen does go up, there will be a "drop" in every centre cell, and she may get down again without doing much harm. I did not think any one now used it when working sections in close-fitting racks and dividers.

"Self-Taught's" letter on "Swarm Catchers" (2415) was also very interesting, coming at same time as a letter from a lady bee-keeper, who may be ranked with those "successful under difficulties." I am tempted to give her account of the self-hiver, if not already too far trespassing on your space. She writes:—"Finding my great trouble in bee-keeping in a walled-in garden was the constant loss of swarms in my absence, I ordered one of Mr. Hole's self-hivers, favourably mentioned in B.B J. When it arrived" (she does not give date, but I think it was in July last) "I had it placed on a Carniolan stock and had a look at it every evening. On the fifth day I noticed the bees flying round the hive in large numbers, and on examination found it crowded with workers. I shook these into the hive, and returned the 'hiver'; but as the bees continued to refill it we examined it minutely, and found the queen in corner of swarm-box, and the swarm was hived without trouble. The self-hiver was then removed to another hive, and in the course of a week a large swarm was found in it. These were English bees. I secured five or six swarms by its means. It is also an excellent drone-trap. I shall work three of them this year." Now I do not like drone-traps, for once the expense of rearing them is gone through I think they are worth their feeding.—J. O'B, *Dalkey, Ireland.*

COMB-ATTACHMENTS.

[2433.] Your correspondent, "Self-Taught" (2406, p. 56) wishes to avoid brace-combs, &c. In describing the essential points to be observed, according to my view, I shall be going over ground long since traversed by myself through the medium of this Journal; but there are so many changes taking place even in the space of ten years—some overlooking information then given, while many, now readers, were not then bee-keepers—that the subject may well claim some interest at this stage of our supposed progress.

I am sure that "Self-Taught" is sufficiently advanced to know that the great rule in hive-construction is to have all internal fittings so arranged that, where necessary to provide passage-ways for bees, what is known as a "bee-space" must always be secured. If the distance allowed is much more than a fourth of an inch, the space will be closed up with comb, or enough so to cause disagreeable consequences; while, if the opening is less than $\frac{3}{16}$ in., the far more objectionable propolis will be filled in.

I do not say this mischief can always be prevented, but the quantity of comb-attachments found between the stock and surplus-chamber is in proportion to the space—or, rather, irregularity of the space there allowed. The trouble with ordinary hives is that the passage below the frames is either too deep, or after lengthened exposure, too shallow; and

when placing one above the other a great deal of inconvenience often ensues.

Brace-combs, built from the surface of one comb to another are generally caused by irregular spacing, but the lower-combs or attachments between the top-bars and sections may really be taken as a sign of prosperity. They are, however, largely induced by thin top-bars. The upper cells of the brood-combs being already worked to the top level of such bars for purposes of storing, are further extended as soon as the open space is offered above. It may be taken as a rule that they are not inserted between any succeeding sets of sections; while thick wide top-bars will exclude them from their usual location. However, I have made extensive experiments with almost every known style of frames, and with some that are unknown; and after all my trials I cannot recommend a wider top-bar than the orthodox $\frac{7}{8}$ in., but instead of $\frac{3}{8}$ in. thick I use them from $\frac{3}{4}$ in. to $\frac{7}{8}$ in. Even with the usual width the troublesome burr-combs are totally avoided by using under the first super an adapter which is not a queen-excluder.

This adapter I have formerly described, and have used for nearly twenty years; principally in the form of slatted twin-crates. These slats, spaced half an inch apart, rest close upon the top-bars, but at right angles to them, so that a large number of square passages are formed, which the bees do not attempt to close, being their only highway. I have yet to see a single comb-attachment where this arrangement is adopted. There are some bee-keepers who prefer to see these little pieces of comb, while one writer of note never scrapes them off, thinking they offer the bees a ready means of reaching the sections, and that the bees enter more quickly when left. My own arrangement, however, entirely does away with the space between stock and super, while the supposed advantage of such honied bridges is secured without their very evident inconveniences.—SAML. SIMMINS.

THE WEATHER IN YORKS.

ITS EFFECT ON FLOWERS AND VEGETATION IN FEBRUARY.

[2434.] The weather here has been phenomenal, the thermometer at 9 o'clock at night nearly registering 50 deg. It has been so mild, that some potatoes stored in a sheltered orchard have made six inches of growth through the covering. Fruit-trees, too, are fast swelling their buds. A visitor the other day was surprised to see our apricots ready to burst into bloom. In a very short time we shall have a wealth of blossom. Just now we have wallflowers, primroses, japonicas, snowdrops, aconites, and crocuses in thousands. These flowers have been splendid, and the bee-keeper is very fortunate who has a lot of them. The bees sometimes have been gathering pollen as early as half-past nine, and as late as half-past four, and so far north, too. Bee-keepers will do well to plant thousands of these; they will grow and do well where others fail; under trees crocuses succeed where no other flowers will grow. They look well under trees where the ground is covered with ivy. The white snowdrops, and the golden cup-like flowers of the aconite look nice as they lift their heads in winter time above the ivy-leaves. We have a wood with thousands of these, and visitors are always charmed with the picturesque scene. It is delightful when the sun is shining to hear the merry hum of the busy bee on these flowers. Clumps of snowdrops and aconites look nice dotted about among the hives; and there is no garden, from the mansion to the poorest cottage, that cannot be brightened by these early flowers; and not only are we cultivating the beautiful, but useful helps for our bees. Flowers, too, are a great boon to invalids when planted before their windows, and help to cheer many a lonely hour for sufferers when they would not otherwise see them. Any one wishing to cultivate flowers and not knowing how to proceed, I should be pleased to assist them. — GEORGE, *Howdenshire, February* 24.

Queries and Replies.

[1426.] *Double-queened Hives for Beginners.*—1. Being a beginner and possessor of one movable bar frame-hive which brought me in nearly 60 lb of honey last year, please state if it will be possible, provided it is strong in numbers at the end of May, to make an artificial swarm and place both swarm and stock in a Ford-Wells hive and work them for comb or extracted honey? 2. May I expect as good a result from the stock when transferred as if left undisturbed (after making swarm) in its original hive.—A. J. C., *Ipswich.*

REPLY.—1. It is of course quite "possible" to make an artificial swarm and deal with it as proposed, but we should hesitate in recommending a beginner to adopt the plan In fact, we fear our correspondent will turn his success of 1895 into failure in 1896, if not careful. The "Ford-Wells" hive is not intended for beginners in bee-keeping, nor is the making of artificial swarms in May—with only one stock to deal with—quite unattended with risk which might culminate in disaster. Our advice, therefore, is to try and repeat the success of last year by working single-queened hives, and if increase is desired, let the stock swarm naturally, or defer operating till swarming comes in June.

[1427.] *Transfering Combs in March.*—Is there any reason why I should not transfer combs and bees from a skep into a frame-hive? I want to lose no time in effecting the change.—"NOVICE," *Canterbury.*

REPLY.—Only the risk of damage to brood through cold. Better defer it till warm weather in April.

MY BEES! (FEBRUARY, 1896).

LAMENTATIONS OF A CORNISH "MOTHER-BEE."

(As heard by a Listener.)

My heart is very sad and sore,
And full—so full—of pain,
Because so many of my bees
I ne'er shall see again.

They wander out so far afield,
They think the month is June,
They will not stay indoors—and yet
The frost may come full soon.

Instead of clustering warm and snug
Around my precious brood,
They fly about, spread themselves out,
And eat up all the food.

The times are strange, and might mislead
A wiser, better head,
But oh! if bees would only go
Contentedly to bed.

Until the proper time had come
For gathering from the flowers,
When bloom of every kind is out,
Refreshed by gentle showers.

No doubt the crocus is in bloom,
And aconite is bright;
Limnanthes full of pollen, too—
All make a tempting sight.

The sun is shining full also,
With summer heat mid-day;
No wonder children are at fault,
And sorely led astray.

But, oh! my brood, my precious brood!
Pray tell me, if you will
Dear sir, can I do ought to save
Them from a deadly "chill."

And could I put my bees to sleep,
Or make them stay at home?
They've lots of store, and quilts galore,
Why should they want to roam?

Well, there, I will no longer fret,
I will my grief restrain;
There surely is some good in all
That now yields only pain.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column. Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements.

A SOMERSET BEE-KEEPER.—"*Wells*" *Hives.*—As seen in illustration, the lower or brood-chamber is fitted with standard frames, and for a manufacturer to send it out with a shallow-frame brood-chamber is an error, to say the least, which should be rectified. It should, however, be borne in mind that Mr. Wells in his own practice is perforce compelled to enlarge the brood-chambers of his hives because of their being so made as to hold only seven standard frames in each compartment. He therefore in early summer—when the queens require additional room for ovipositing—adds an equal number of shallow-frames overhead to make the brood-chamber of suitable size. But with ten standard frames in each brood-nest no shallow-frames are required. If, as stated, the lower chamber, with fixed porches, is fitted with shallow-frames in the hive sent you, and the mistake be not rectified, we should remove the shallow-frames, set on the "eke" to increase the depth of lower chamber, and fill the latter with standard frames. This will overcome the difficulty at once, and the shallow-frames may be used for surplus honey.

NOVICE (Riverhead).—*Combed Sections Damaged by Mice.*—We should not use these again for storing honey in. The fact of the centre being eaten out of most of them by mice would probably not only make the comb offensive to the bees, but to consumers of the honey in combs so dealt with. The melting-pot is the best use to make of for such combs.

W. S. (Preston)—*Granulated Honey for Exhibition.*—"White patches" in jars of granulated honey are certainly a blemish in an exhibit, but if shown only in the "collection" class it is not a very serious drawback, provided the flavour, colour, and "grain" be good. There are no means of getting rid of the "white patches" except by melting.

E. HYLES (Essex).—Sample sent is not Porto Rico sugar, the latter being a brown raw-sugar. That received is nearly white.

C. STELLINGWERFF (Hasselt, Belgium).—*Hole's Swarm-catcher.*—Full description, with illustration, of this appliance appears in BEE JOURNAL of May 30, 1895, which can be had from this office for 1½d. in stamps.

S. S. N. BINGLEY (Surrey).—The "British Bee-keepers' Guide-Book," of which a new edition is now in preparation, will furnish all the information required. Meantime you might peruse the handbook for Cottagers "Modern Bee-keeping," published by the B.B.K.A., and obtainable from this office, post-free, for seven stamps.

JACQUES (Dorset).—*The "Wells System."*—Mr. Wells has published a pamphlet on his system of managing bees, which may be had for 6½d. from the author, Geo. Wells, Aylesford, Kent.

POLLEN (J. O. M.).—You cannot entirely prevent storage of pollen in surplus chambers, but it may be minimised by using excluder-zinc, and so keeping the shallow frames free from brood.

"Teaching Bee-keeping in Schools" and several "Replies" are in type, and will appear next week.

Editorial, Notices, &c.

USEFUL HINTS.

WEATHER.—Excepting for an occasional night-frost, all traces of which usually disappear within an hour or so of daybreak, there has still been no winter worth speaking of as such. Ten days ago a change seemed imminent, and we began to fancy that frost, so long delayed, was "making for us" at last. A bitterly cold wind, with half an inch of ice formed during the night, betokened a wafting eastward of the "freeze," which—as reported from Chicago on February 20—caused the mercury to drop down to 14 deg. Fahr. below zero. This means forty-six degrees of frost: the intensity of the cold, we read, causing many persons to be frozen to death. Our touch of cold, however, was a very gentle one, and—supposing the "wintry wind" to have travelled across the Atlantic—its icy breath was appreciably softened on the journey hitherward. It soon passed off, too, leaving us again, so far as weather, in a condition of abnormal mildness for the time of year.

As an instance of this we may quote a few lines from a correspondent, located so far away in the northern Highlands as Tain, in Ross-shire, about 650 miles north of London, who, writing on the 18th ult., says:—"We are having delightful weather here for the last three weeks. I had a look through some of my hives last week, and found as many as four frames of brood in a hive, with lots of young bees moving over them." We can imagine that many bee-keepers in the warmest parts of the south of England would be glad to have their hives with "four frames of brood, and lots of young bees" in them before the middle of February.

AFTER THE WINTER.—Apart from the possible risk—which none must ignore—of frost still to come, the general condition of bees at date of writing, so far as accounts inform us, is exceptionally favourable. Indeed, it is a long time since so many apiaries were reported as having come through the winter practically free from loss. Not only so, but brood is being raised freely, even though the actual opportunities for pollen gathering have not been so frequent as the mildness of the season would suggest. To read of bees so forward as those of our Scotch correspondent, referred to above, is, indeed, remarkable; but, while affording cause for gratification at the prospect of "rousing stocks" for the early honey-flow, it should not be forgotten how great is the need for watchfulness should a sudden cold snap occur in April or even in May, as has been known ere now to the bee-keeper's cost. Old hands will seldom be caught napping on this point, but less experienced bee-men must be wary, and allow no leak from the warmth of brood-nests, if care will prevent it. They should possess a trifle of the watchfulness of the small market-gardeners of the famous "early potato" district of Wallasey, in Cheshire, who have been known to get up in the middle of the night and take the blankets off their beds to screen the tender foliage of the young potatoes from sudden and unexpected frost! No "chilled brood" allowed there, anyway.

COMB-BUILDING BY NUCLEI.—An inquiry received the other day as to the possibility of dispensing in a great degree with the free use of comb-foundation on account of expense, gives us the opportunity of quoting a plan of doing this which appears in the *American Bee Journal* just to hand. A correspondent of that paper, writing to Mr. G. M. Doolittle, tells of having heard that he (Mr. D.) secures worker-combs by having them built in nucleus colonies instead of buying foundation. In reply the latter gives his plan in nearly the following words:—

The bees used in building the combs referred to are generally those left with the queen after uniting two weak colonies, as I usually do just before the honey harvest begins. I thus make up a strong body of workers able to work to the best advantage, the doubled colony giving a good yield of honey, while the surplus queen and a few of her bees form the nucleus which does the comb-building:—

Mr. Doolittle details his plan as follows:—

In uniting, all the bees from hive No. 1 are taken to No. 2, except those which adhere to the frame which the queen is on and the sides of the hive, so that hive No. 1 only contains

one comb of brood, the queen, and the bees which adhere to the hive. An empty comb is now inserted by the side of the only comb left, and a division-board adjusted to make a hive holding just two combs. When the bees from the united colony fly, the old bees taken on the frames of comb placed in No. 2 return to No. 1, so that we have the two combs there, well crowded with bees. This causes the queen to lay rapidly in the empty comb given, which will be filled with eggs in two or three days, at which time I put an empty frame between the two full ones. As this little colony has no desire to swarm—or for anything else, save to increase its number of worker-bees as fast as possible—they go right to work and fill this frame with as nice and straight worker-comb as ever was made where foundation is used; and this, too, when colonies having no such desire, will be doing comparatively nothing at gathering honey, or anything else.

In about a week this comb is completed, when it is taken out and given to some colony that needs just such a frame of comb and brood, while another empty frame is given, which is again taken out when filled, and thus we keep on to the end of the season, when several of these little colonies are united, so as to form one good colony for winter. The extra queens are sold or used in replacing poor ones.

In this way I have got as many as fifteen beautiful worker-combs built by one of these little colonies in one season, and all done by the bees which hatched from the two combs they had to start with.

California Honey Plants.—It may be remembered that in a leader on page 61 of our issue for February 13 last, some comments appeared on the subject of Foreign *v.* British honeys. We took exception to the statement made in a Liverpool newspaper by a firm of produce brokers in that city, who, in extolling the superiority of Californian honey, said, among other "nice" things regarding it, "The delicate flavour of Californian honey is due to the heather, clover, and other flowers which abound there upon the hills. Narbonne honey obtains its high reputation from similar sources. Scotch bee-keepers also convey their hives of bees to the mountains during the heather blossom season."

Now, as we stated at the time, "heather honey" and "clover honey" are respectively unknown as being produced in that part of the world. However, as some readers may wish to possess an authoritative statement on the subject we append a list of Californian honey plants, as given by Professor Cook, the well-known writer on bees, who is also himself a bee-keeper in that State:—

White sage.—*Audibertia polystachia.*
Ball (or black) sage.—*Audibertia stachyoides.*
" *Palmieri.*
" *Clevelandi.*
Blue phacelia.—*Phacelia tenacetifolia.*
Small blue phacelia.—*Phacelia circinatrix.*
Wild buckwheat.—*Eriogonum fasiculatum.*
Californian clover.—*Hosackia glabra.*

The last named, though commonly called Californian clover, is not a clover at all, nor does it belong to the family of clovers (*trifolium*). In fact, the *Hosackia* belongs to the *Lotus* family.

Professor Cook also says:—"The white sage takes the place of white clover as a honey plant."

FOUL BROOD AND ITS TREATMENT.

Written for the Quarterly Journal of the Royal Agricultural Society of England.

BY THOS. W. COWAN, F.L.S., F.G.S.

(*Concluded from page* 85)

METHOD OF TREATMENT.

The superiority of the modern frame-hive over the straw skep is here strikingly apparent. The latter was as a sealed book to its owner, who had no means of detecting the presence of foul brood except by outward signs, and these, as already pointed out, are only manifested when the disease is in its last and most virulent stage, at which time any treatment short of total destruction is entirely hopeless. The owner of a movable frame-hive, on the contrary, can, by the facilities it affords for examining the combs, at once detect the disease in its earliest stages, and adopt measures for arresting its progress or for stamping it out altogether. Unfortunately the disease is seldom noticed on its first appearance, but it has nearly always to be dealt with when more or less spores are already in the hive.

If, on examining combs, to all appearance healthy, with brood compact and larvæ bright and plump, we find here and there a cell with young larvæ moving uneasily, or extended horizontally instead of being curled up, and changing to a pale yellow colour, we at once detect the first symptoms of foul brood. The further progress of the disease can, at this stage, be arrested by feeding the bees with syrup, to which three grains of naphthol beta are added to every pound of sugar used. This is employed by the nurse-bees in preparing food for the larvæ. We can further assist the bees by putting naphthaline or eucalyptus in the hive. The bees then usually remove the dead larvæ.

Apart, however, from experienced bee-keepers or trained experts, very few are fortu-

nate enough to detect the disease at such an early stage, or to effect a cure so easily, and it becomes advisable to describe the method of procedure in ordinary cases—that is, when the combs have irregular patches of brood, with sunken and perforated cappings to the cells (Fig. 1, p. 84) containing the coffee-coloured mass inside.

If the colony be weak, destruction of bees, combs, frames, and quilts, together with thorough disinfection of hives, is by far the best course to pursue. We thus destroy the spores, and so remove the source of infection. If, on the contrary, the colony be still strong, the bees may be preserved by adopting the following method:—An artificial swarm is made of the bees, which are then placed in a straw skep and fed on syrup medicated with naphthol beta. The frames, combs, and quilts are then burned. The hive is disinfected by being either steamed or scrubbed with boiling water and soap, and then painted over with a solution of carbolic acid (one part of Calvert's No. 5 carbolic acid to two parts of water), and when the smell has disappeared it will be ready for use. The bees are allowed to remain in the skep for forty-eight hours, by which time the honey they may have taken with them, and which might contain spores, will have been consumed, and the diseased bees will have died off. They are then shaken from the skep into a clean frame-hive furnished with six frames, fitted with full sheets of comb foundation, and are fed with medicated syrup for a few days longer. The skep used as their temporary home should be burnt. All such work should be done in the evening when the bees have ceased flying for the day, to avoid chance of robbing.*

The bee-keeper in his endeavours to rid his apiary of foul brood must also raise to its proper standard the lowered vitality of the bees, which enabled the disease germs to get a footing. This he must do by keeping the bees strong with young and prolific queens, good wholesome food, cleanliness, and proper ventilation.

Foul brood is extremely contagious, and, being prevalent in so many places, it is advisable to adopt preventive measures against infection. Naphthaline in balls is generally used, and two of them are split in half, and placed on the floor-board of the hive in the corner farthest from the entrance. The temperature of the hive causes the naphthaline to evaporate. All syrup used for feeding should also be medicated with naphthol beta. Clothes, appliances, and hands must be washed with carbolic soap, and other articles disinfected by spraying with a solution of one ounce Calvert's No. 5 carbolic acid in twelve ounces of water.

It was formerly thought that honey was the only source of infection, so that, if bees were starved until they had got rid of the honey carried by them from the diseased hive, a cure would be effected. We now know that this starvation method, good as far as it goes, has always failed from the fact of its not embracing disinfection of hives and appliances. The spores, which were not destroyed, and whose vitality was only latent, were possibly lurking in hidden places to be some day brought into contact with suitable nourishing material, when they would again start into growth, and thus the disease constantly broke out.

From what has been said it will be seen that unless great precautions are taken it is very difficult to get rid of the disease. It thus becomes obvious that those who fail to realise the danger of infection, and who will not take proper means of ridding their apiaries of foul brood, or of preventing its introduction, are a real danger to the industry.

If foul brood were under Government inspection, and all bad cases promptly dealt with by destruction, the disease could soon be stamped out. This is what the British Bee-keepers' Association have asked the Board of Agriculture to bring about, and by this means the industry would receive an impetus which would benefit not only bee-keepers, but also—to a far greater extent—farmers and fruit-growers.—*Fowey, Cornwall, December*, 1895.

ABOUT OUR BEES.

BY HENRY W. BRICE.

(*Continued from page* 75.)

VII.

Practical.

How, when, and where, to commence keeping bees is a question which I suppose most of my readers have considered at some time; and to properly grasp all that is involved, its three divisions or aspects must be considered separately, and I shall therefore begin with the important "How" to start? The majority of failures to keep bees successfully arise from not making a fair and proper start. This necessitates some acquaintance with the theoretical side of the pursuit, which can only be gained by the careful perusal of a good standard work on bees. Having mastered the salient points of this, purchase *one* hive, to hold standard frames, and a few of the most essential appliances enumerated on p. 74, viz.: a smoker, bee-veil, frames and foundation. Learn the use of each and how to handle them; then, and not till then—buy a stock or swarm of bees, a swarm for preference, and when these are comfortably located in the garden earnestly set to work and master the practical details of this part of the subject, bearing in mind all through the preliminary stages of acquiring bee-knowledge to "go slow" so far

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* For other methods of treatment the reader may be referred to the writer's *British Bee-keepers' Guide-book*, published by Messrs. Houlston & Sons, Paternoster-buildings, E.C.

as taking more work on hand than you can manage *well*.

Take especial care also to avoid an initial mistake when it comes to buying the bees. Disease is so rampant all over the country that no tyro should buy stocks without either the advice of some one able to give an opinion on the purchase, or a guarantee from the vendor that the bees are in a thoroughly healthy and prospering state, possessing a good queen and strong in numbers, and on good workable frames of comb. Under no circumstances should bees in skeps be purchased without thorough examination. Indeed, the *safest* purchase for a beginner is a prime swarm in May from a reliable dealer. A visit to a bee-keeper of repute is most helpful, as is also a visit to a honey show, where bee-tent lectures and manipulations are given. This will teach the observant more in one hour than a month's groping about, so to speak, in the darkness of one's novitiate.

Next comes the "when" to start; and an important part of the question it is. There are, however, two periods only in the year when bee-keeping should be commenced, viz, spring and autumn. April is *the* spring month to commence with if a stock be bought, and for a swarm, as early in May as it can be purchased; August and September being the best autumn months. Bees should be left almost entirely alone in the early spring or until the beginning of March, by which time all danger of harm from undue interference will have passed.

"Where" to keep bees is the last part of this question, and I may answer—anywhere! if forage is available within a mile of the hives. In all our rural and semi-rural districts bees may be kept. In these islands many of the very best districts have but few bees. Tons of honey are wasted annually simply because there are not sufficient bees to gather it, and thousands of pounds sterling are lost to our cottagers and other dwellers in agricultural districts, solely for the want of a little enterprise and trouble entailed in keeping a few stocks of bees on intelligent lines.

Of course, every district will not give 100 lb. per hive, but there are scores of places where 30 lb. to 40 lb. can be gathered, per hive. In short, there are very few places outside our large industrial centres where bees cannot be kept with profit, to say nothing of the pleasurable side of the question which is an item of itself not in any way to be despised.

VIII.

HOW AND WHEN TO MANIPULATE BEES.

To become a successful bee-keeper a certain amount of aptitude is necessary, and this is chiefly displayed in the absence of nervousness or roughness in manipulating. All the smokers and means of protecting are useless if confidence in oneself and aptness to carry out the operation are absent. A great portion of these two requirements, it is true, may be acquired by practice, and as experience is gained; much also depends on the time chosen for manipulating bees. A fine morning shortly before noon is a good time, as the field-workers are then too busy to give attention to trifles, and are much less likely to volunteer an attack than earlier or later in the day. Having the smoker alight and the bee-veil on, take your place at the back of the stock to be examined; quietly lift off the roof and remove all quilts but the one next the frames. Having ascertained that the smoker will "smoke," gently raise one corner of the quilt, and give a puff or two a little into the opening, then gradually lift the quilt right along the frame-ends so as to expose just a little of the combs; a puff or two of smoke from one end to the other will cause the bees to become alarmed and to run down, replace the raised portion of the quilt for a minute, then steadily peel it off, giving a little more smoke if necessary, but not otherwise over and not on to the frames as they are exposed. Too much smoke often upsets the bees. Run the eye over the frames, and a fair estimate can be formed whether or not it is advisable to proceed further. If the bees boil over and set up a hissing noise close carefully down again and try them again next day. If, on the contrary, they seem to take but little notice of the interruption, quietly remove the end frame and dummy, and place them in a box—made to hold standard frames—which should be at hand for the purpose. This precaution is necessary for fear of harm to the queen, if she chanced to be upon the frame lifted out and it was set on the ground. If the object is to find the queen, do not at first waste time in looking for her on the first frame, but proceed to take out the next one, grasp it firmly by the "lugs" of top-bar, draw it towards you to separate it well from the next frame, and raise it carefully up till level with the eyes. Examine deliberately the side in front of you—always keeping a watchful eye on the brood and a look out for disease. If queen be not seen, lower the right hand end until the left is directly above it, then turn the frame so as to bring the opposite side round, lower the left hand to its original position, and examine. By reversing this action the frame is got into its original position for returning to the hive, close to the side nearest the operator. Proceed in this way with the rest of the frames, always drawing each one apart before lifting. Never forget to turn the frame over exactly in the way mentioned when examining combs or on some warm day when turning the frame over, the comb, bees, and brood, will break out and drop on the ground from sheer weight and the softness of the wax at the time. In all manipulating do what is wanted as speedily as may be consistent with gentleness; if stung don't cry out and drop the frame; bear the little prick of pain without desiring to at once "smash" the bee inflicting it, and when the

frame is replaced scrape the sting out with a finger nail, and apply a remedy if thought necessary. Having completed the examination, replace all frames and the dummy in their original position. This done, take the quilt in both hands, and beginning at one end, slide it along the frame tops, pushing the bees forward as it passes along the bars. Thus no bees are crushed, and those remaining outside speedily take wing for the hive entrance. When all quilts are replaced, the hive is closed down.

Experience proves that at most seasons bees (not queenless) can be successfully handled with but few stings, except when "robbing" is the order of the day. At such times, if either of the latter states exist, all bees are cross, and those queenless the worst of all. Bees may be shaken off a frame by a smart downward jerk over the hive in mid-air, but if honey is just being gathered it shakes out of the frame like water, and often makes a mess, which attracts robbers. I prefer using a goose-feather and brushing the bees off on to the tops of frames still in the hive. Do not, however, brush or shake the frame the queen is on for fear of injuring her. — *Thornton Heath.*

(*To be continued*).

BRITISH BEE-KEEPERS' ASSOCIATION.

ANNUAL MEETING AND CONVERSAZIONE.

We would remind our readers of the annual meeting of the British Bee-keepers' Association, which takes place in the Board-room of the R.S.P.C.A., 105, Jermyn-street, at 4 p.m., on Friday, the 13th inst., the Baroness Burdett Coutts, President, in the chair. The first quarterly conversazione for the year will also be held at 6 o'clock in the evening of the same day. We hope to see a goodly muster of members on the occasion, as the meeting is likely to be a very interesting one.

NOTTS BEE-KEEPERS' ASSOCIATION.

The annual general meeting of the Notts Bee-keepers' Association was held at the People's Hall, Nottingham, on February 22. Viscount St. Vincent (president) in the chair, and among the good attendance were:—Messrs. G. Hayes, P. Scattergood, Herrod, Glew, Wootton, Marriott, Wood, McKinnon, Richmond, Raven, Forbes, Baguley, Rawson, Riley, Meadows, Puttergill, Newton, Rev. J. S. Wright, &c.

The Chairman, in briefly opening the proceedings, remarked that that was the first time since he had been chairman at their annual meeting that the association had a balance on the right side.

The minutes of the last meeting having been read and adopted,

The Hon. Secretary (Mr. A. G. Pugh) read the annual report, which, after remarking as to the season of 1895, and dealing with membership and income for the past year, went on to say:—It was proposed to give lectures on bee-keeping during next month at East Leake, Collingham, East Bridgford, Underwood, &c. That scourge of bee-keepers, "foul brood," had received considerable attention at the hands of the Council of the British Bee-keepers' Association, and it was reported that proposed legislation dealing with the subject was making good progress. Their experts visited ninety-nine members' apiaries during the season, and did not report any great increase of the pest in Notts. The report, along with balance-sheet, which showed a balance in the hands of the treasurer of £1. 19s. 6d., was adopted.

On the proposition of Mr. Pugh, Viscount St. Vincent was re-elected president.

Sergeant McKinnon was elected to the committee. The sub-committee on technical education were re elected. Mr. Geo. Hayes (Beeston) was elected secretary by ballot, Mr. Pugh having resigned his dual post of hon. secretary and treasurer; he, however, agreed to meet members' special wish, and accepted position of hon. treasurer.

Tea was afterwards partaken of, after which a conversazione took place, at which Mr. P. Scattergood read an instructive paper upon "Foul Brood." A discussion followed, and the proceedings were brought to a close by the usual prize drawing (for which a valuable collection of appliances had been provided), included a splendid "Wells" hive and an "X L all" hive presented by the noble President, Viscount St. Vincent.—(*Communicated*).

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

CELL AND COMB STRUCTURE.

[2435.] Long before ever I became the ardent beekeeper I now am, my mind had been filled with admiration and amazement at the marvellous beauty and practical utility, from all points of view, presented by the cells and honeycomb of the ever-wonderful hive-bee. So seemingly—for it is not so actually—symmetrical and perfect. So "fearfully and wonderfully" made for the accomplishment of the end to be gained. Such economy of space and material, combined with such strength and capacity. How was it made? Why did the bees prefer the hexagonal shape to any other? Such books as I could then obtain informed me that the cells were purposely so shaped by the bees—who were the greatest mathe-

maticians ever known—for the object of combining the aforesaid qualities, and such was the extravagant bee-worship manifested that one was almost led to believe that these insects went about with rule and compass besides indulging in the most terribly abstruse mathematical calculations. Later I learnt of the solitary and semi-social bees, and of the wonderful nests and cells made by them in walls, boards, and underground. The structure of the nest and cells of the Humble Bee (*Bombus terrestris*) caused me to ask myself the question, "Why should these differ so much from their relations on the *Apis mellifica* side?" Why should the former be like little bladders with a circular entrance while the latter are hexagonal with a pyramidal base. Why should the cells of the solitary "mason," "carpenter," and other bees be round? Here I had to leave it, the bent of my mind and studies being more of a literary than scientific nature. But after many years a chance ramble in Cheshire made me acquainted with a cottager who possessed a number of straw skeps, and being quickly inoculated with the bee fever, I took steps for the speedy possession of one of the colonies. Then began the reading of bee literature once more, together with all the books on practical apiculture I could lay hold of. When the following year the swarms "came off," and the transference to bar-framed hives began, the cell structure and comb-building resumed its old fascination over me, and I "wanted to know you know" all about it. In all the books I had read, the good old "mathematical theory" was "trotted out," and the Maraldi and Kœnig calculation appealed to as clinching and incontrovertible. (I wonder how many times, and in how many books, I have met with this celebrated story.) Darwin's observations on the subject—in his "Origin of Species"—put me on the right track. For though he appears to me to keep an open mind on the matter, yet the trend of his remarks are in the direction of the theory now almost universally held by advanced bee thinkers, and all who do not let their love of the mystic-allegorical-mathematical bee get the upper hand of modern science and evolution. The possession on its first publication of Mr. Cowan's "Honey Bee; its Anatomy and Physiology," opened out to me fresh scope and wider range than had done the mere practice of practical apicultural and honey production; and, henceforth, dissecting and microscopical work kept alive through the winter months the enthusiastic love of things apiarian, which practical work in spring, summer, and autumn had engendered. But of all the chapters in that admirable book, the most fascinating to me was that on "Wax and Comb Construction." I think it is the chapter which shows more original research and patient investigation than any of the others. Truly, the bees are mathematicians—not in the sense formerly attributed to them, but unconsciously so—for in the building of their combs they carry out the laws of nature which are essentially mathematical. From the way they work, the material they use, the temperature of the hive, and all the agencies which are at work, the hexagon is the only possible outcome. Briefly the bees do make their cells round, but "mutual interference" convert them into hexagons. Many and many have been the disputes and arguments we have had on this subject. The soap-bubble, "squashed" sausages, and cigarettes—practical and easily obtained methods of experiment—being treated with scorn. In vain to point out the polyhedral cells in plants and corals. The hexagonal facets of the compressed eye, which are rounded in the outer ones where mutual interference does not take place. The round form of the *ocelli*. Nay, to come to a cell actually made by the bees—not in the usual way, but so built that "statical pressure according to the laws of equilibrium" could not interfere. I mean the queen-cell. All these instances were vain. My opponents had made up their minds that the bees built their cells hexagons, as hexagons—they were not going to deprive the bees of this honour—this "feather in their cap," so to speak. We might divest the queen of her prerogative, strip her of all her authority and sovereign power, and leave her nothing but a mother-bee—a mere egg laying machine—but we must not rob the bees of their senior wranglership. How I did long to be able to produce or procure a cell made by a single-bee, without the normal side-by-side and head-to-head interference. But all my efforts and observations were in vain. Chance produced what endeavour could not accomplish. Last autumn, in giving back the dripping cappings to the bees, I put them in a rapid box feeder, without the "float" arrangement. Taking them off in a few days, I was much amazed at the queer rockwork-like structure into which the wax of the cappings had been converted. But this amazement was quickly turned to surprise and delight of another kind, for the whole of these irregular rock-like "combs" were pierced with cells—of what shape do you suppose? You will be prepared for the answer. Round—veritable round—holes of the diameter of a worker's body, and what is more, wherever by chance those cells are so close together that the holes almost touch the adjoining side are flattened. The bees not having been able to suspend themselves and work in the normal manner, had burrowed individually amongst the wax-cappings, and produced a cell of the primitive shape. A short time ago I was present at a local lecture on "Bees: a Female Monarchy." To my companion (a first-class B.B.K.A. expert) and myself it was as comic and amusing as a pantomime—such a jumble of misinformation, superstition, metaphor, allegory, and moral sermonising in the hour and a half we had never heard before in a popular "scientific"

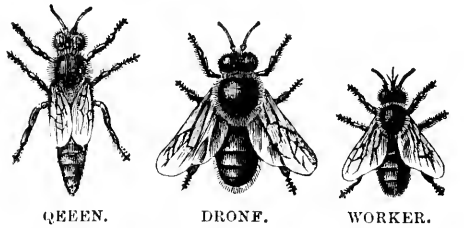
lecture. But the lecturer waxed most eloquent and reached the zenith of his bathos when, after having expatiated on the intelligence of the bee—as demonstrated by the Kœnig-Maraldi *v.* Honey-bee mathematical competition—he defied any one to produce a single piece of comb with round cells, adding, "let us hear no more of your soap-bubbles and squashed sausages. *We* have settled all that long ago." I think my round cells contradict his conclusion. At all events, they hold the chief place in my "museum" of bee wonders. —FREDERICK H. TAYLOR, *Birch Fold Cottage, Old Hall-lane, Fallowfield, Manchester.*

TEACHING BEE-KEEPING IN SCHOOLS.

[2436.]—Many junior teachers in our schools include "Bees" in their list of object lessons, and I have been struck by seeing how often they are painfully at a loss in drawing up their notes. Perhaps some would gladly possess a fairly reliable outline. The notes below are much too full for infant classes, unless intended to be given in two lessons, at least. The teacher will readily select his own points, find suitable illustrations, and draw up teaching notes. It would, however, be well for the teacher to possess a drawing of queen, drone, and worker, and to sketch it on the blackboard. Some flowers should be used to show the pollen and nectar vessels; and comb, or a picture of one, should be shown. Perhaps you could kindly adorn the lesson with a woodcut of queen, worker, and drone.—S. JORDAN, *Bristol, February 7.*

A suggested lesson for junior teachers on—

THE HONEY BEE:—



QUEEN. DRONE. WORKER.

Life size. From the "British Bee-keepers' Guide Book."

AN INSECT.—Many kinds of bees. All bees are insects.

ITS HOME.—In its wild state will live, thousands together, in a hollow tree or hole in a rock. Men keep them in hives made of straw or wood.

THREE KINDS IN HIVE.—1. The queen, or mother-bee. Only one in a hive. She lays all the eggs—many thousands in a year. Can be picked out by shape, size, and colour, but she hardly ever goes out of the hive. 2. Drones. Found only in summer; several hundreds in a hive. Male bees; do not work at all, so all turned out to die before winter comes. 3. Workers. Most of the bees workers. They gather all the honey, build combs full of little wax cells in which honey is stored or eggs laid; feed the grubs (which hatch from the eggs), queen, and drones; seal over the full-grown grubs and the honey with wax; fan with their wings to keep hive cool; clean up hive and carry out debris; keep out strangers, and at last turn out drones.

CHANGES.—Egg, larva, or grub, chrysalis, bee. The bee bites open the end of its cell to come out when perfect.

DESCRIPTION OF WORKER.—About size of a wasp, but dark brown in colour. Three parts; head, thorax (or middle), and abdomen. Long tongue with wonderful little spoon at end to gather nectar from flowers. Thousands of eyes bunched together on each side of head. Two feelers (antennæ).

On thorax two pairs of wings and six legs. On its hindmost legs are tiny baskets of hairs to carry home the pollen or dust of flowers. This pollen is used with honey to make bee-bread. A sting at end of abdomen, with poison-bag.

USES.—To gather nectar from flowers, and change the nectar into honey; to produce wax which grows in eight little scales under the abdomen; to make the flowers produce seeds by taking the pollen from one flower to another of the same kind.

SWARMING.—When the hive becomes too full many of the bees leave with queen to find another home. They fill the air, and make a busy hum, then cluster in a tree or bush before they fly off, or the owner takes them. The bees left in the old hive raise another queen from one of the eggs already laid.

WHAT IS A LARGE ENTRANCE?

[2437.] I have to thank "Bee-Cycle" for giving the size of entrance he has used when desiring to prevent swarming [2409, p. 58]. An opening, however, which is only half-an-inch deep, though it may be fourteen or fifteen inches in length, will do little towards prevention in the case of really populous colonies. The new hive he mentions has had an entrance 1½ in. deep by 18 in., but even this in future will be made deeper still. In addition to this, the lower chamber is everywhere clear of the floor, as well as its entire upper surface (both walls and frames) being separated by a never-varying bee-space from the actual stock chamber. Thus, when desired in summer, the entrance is practically equal to the entire superficial area of the stock chamber.

If "Bee-Cycle" will adopt such an arrangement for securing thorough ventilation he will be enabled to work without cutting out combs, while if he is anxious about the condition of the lower chamber he may remove it without disturbing or lifting any part of the working stock. This arrangement of hanging and sliding chambers I adopted in 1888, finding it the best means of securing the necessary ventilation, as well as offering other

peculiar advantages. With ordinary tiering-hives, however, I was generally successful, with a shaded entrance, about 2 in. deep by 12 in. or 14 in. in length. I may say, however, that I am not alone in considering the ordinary full-width entrance of the stock-chamber mostly in use as being far too small for a good colony during the height of the season. Most successful bee-keepers have advocated that the hive then be raised at the front on blocks, or in some cases the chamber has been brought forward some inches beyond the floor-board.

By his silence on the subject, I conclude that "Bee-Cycle" did use excluder zinc between stock and supers, and this, with insufficient ventilation, will largely account for his trouble with so much comb built below, rather than above, the stock-combs.—SAMUEL SIMMINS.

HOUSE APIARIES.

[2438.] I have been much pleased to see in late numbers of your JOURNAL that certain experienced bee-keepers seem to prefer, though apparently only to a certain extent, house-apiaries, instead of detached hives, exposed to all the vicissitudes of the weather. In the *British Bee Journal*, and also in the RECORD, I have seen very frequent allusion from correspondents showing the difficulty in keeping hives which are exposed dry. For the last thirty or forty years I have kept bee-hives more or less protected from the weather, but, as I gained experience in this respect, I have endeavoured year by year to make improvements in the shelter I give to the hives. I am quite convinced that bee-hives must be kept dry and warm in winter, and cool and dry in summer. Dryness in winter is of greater importance in keeping bees healthy than warmth. Bees in winter, when they cluster, can keep up a certain heat, but if the surroundings are not dry the combs will become mouldy, and a damp cold is a more serious thing in the hive than a dry cold.

In summer the bees have the means in themselves to keep things right. If too warm, they can themselves cool the hive by fanning with their wings, and clustering outside. Unless, however, sufficient shelter is provided by the bee-keeper, summer and winter, he cannot expect to get the full advantage of a suitable district for honey. Bees will exist under very miserable coverings, but there will be neither profit nor pleasure for those who own them. The entrances to most hives, whether outside or in bee-houses, are, in my opinion, too small, and the porches, if there are any, scarcely protect the bees from rain, especially if there is wind as well as rain. I have watched bees during a sudden thunder-storm coming home in crowds, crushing and tumbling over one another, two or three deep, in their efforts to get into their hives, even with entrances 8 in. or 10 in. long. If bees in this position are soaked and blown away, many will never recover, and all the owner knows is that his bees are not quite so strong as he would like them. No doubt the arrangements to protect the bees under such circumstances cost a little more; but I am certain the returns in honey and pleasure are much greater.

In the first place, I think hives in a bee-house thoroughly protected from heat, cold, and wet, are a necessity for successful bee-keeping.

Entrances to bee-hives should take a form of an entrance chamber, and be so arranged that the bees can fly in and be at once protected from wind and rain, and, if the owner wishes to have the pleasure and advantage of watching them, these entrance chambers can be covered with glass. It has been quite an education to me during the last twelve or fifteen years to watch my bees going out and coming in. A very great deal can be learnt from what is seen outside the entrance, and the bees, I am sure, feel the benefit of having such a place to roam about in. On warm evenings many cluster there. As Mr. McNally, in an excellent letter which he writes on the subject, says, the hives can be examined in all weathers, and I quite agree with him in thinking a house apiary should be large enough to allow of room to examine the bees under cover, and with enough shelving to keep all the necessary appliances when manipulation is going on. If in front of each hive there is a movable shutter, this can be removed, and the combs examined with a good light immediately in front of the hive, and in that way bees tumbling from the combs would fall on the top of the frames.

I am not writing this so much for those whose object is to make a profit only of their bees, but a large number of bee-keepers keep them for pleasure, and also to vie with their neighbours in getting larger returns, and their object will be to keep the bees healthy, if they wish to succeed. If you think my letter interesting and instructive to your readers I will endeavour to go a little more into details in a future letter.—FREDERIC W. M'CONNEL, *Dumfriesshire.*

Echoes from the Hives.

Stichill, Kelso, March 2, 1896.—"We have had an exceptionally mild winter here, and the stores are failing fast. There were patches of brood in the hives fully a fortnight ago, and now the crocuses and mezereons are in full bloom. I have thirty hives in capital condition, while my bee-keeping friends, Messrs. Brown and Wilson, Kelso, are equally well pleased with their stocks. We hope to have a better year than last."—WILLIAM SMITH.

WEATHER REPORT.

WESTBOURNE, FEBRUARY, 1896.

Rainfall, ·47.
Heaviest fall, ·23, on 20th.
Rain fell on 9 days.
Below average, ·91.
Maximum Temperature, 53° on 28th.
Minimum Temperature, 22° on 26th.
Minimum on Grass, 22° on 26th.
Frosty Nights, 13.
Sunshine, 76·9 hours.
Brightest Day, 24th, 8·3 hours.
Sunless Days, 10.
Below Average, 24·7 hours.
Mn. Maximum, 45·7°.
Mn. Minimum, 32·4°.
Mean Temperature, 39°.
Maximum Barometer, 30·77° on 1st.
Minimum Barometer, 29·62° on 20th.

L. B. BIRKETT.

THE FLIGHT OF BEES.

A correspondent dating from Ripon, Yorks, says :—

"I send you the enclosed communication to the *Yorkshire Weekly* of February 8. For myself I should think it highly improbable that bees should have any occasion to forage at so great a distance, especially from what one hears of Essex being a favourable county for bee-keeping. For many other reasons I am rather sceptical about the truth of the statement, and should be guided entirely by your experience in the matter. It is, however, an interesting point."

[The salient point in the cutting enclosed, which is too lengthy for insertion, lies in a repetition of the old story about bees dusted with flour on leaving their hives for identification, being seen working on a field of clover twelve miles away from "home." It would take up too much space to controvert such statements, made, no doubt, through want of knowledge on the subject; but to say that bees travel anything like one-half that distance in search of food is incorrect. For all practical purposes the radius of a bee's flight in search of forage may be given at two or at most three miles.—ED.]

SELLING ADULTERATED WAX.

A London chemist and druggist appeared at the Marylebone Police-court in answer to an adjourned summons, taken out by Inspector Andrews on behalf of the Marylebone Vestry, for selling, to the prejudice of the purchaser, 2 oz. of white wax which was adulterated with paraffin to the extent of at least 38 per cent. Mr. W. E. Greenwood, solicitor, prosecuted, and Mr. Hunt, barrister, defended. A certificate issued by Dr. Wynter Blyth, the public analyst, was produced, showing that the wax contained paraffin to the extent above stated. There was an advantage to the seller in the sale of the composition, as that was of less value. The defence put forward was that there were two kinds of wax—one known as commercial wax, containing paraffin, used for laundry work, the making of wax flowers, &c., and the other a pure bees-wax bleached, which was used for pharmaceutical purposes. The former was the one usually sold to the general public, and was, in fact, sold to the inspector and would not come within the meaning of a drug. Both were called white wax. The magistrate remarked that when an ordinary person went to a chemist for wax he was entitled to get it, and not to be supplied with something which was a compound of wax and something else. Such a compound should be labelled, and the public would then know what they were receiving. It was quite clear that there had been an infringement of the law, and a conviction must follow. He did not, however, consider it a case for an exemplary fine, as chemists might have been under the erroneous impression that what they were doing was correct. But in future, if chemists continued to trade in this way, and the matter was brought before him, the penalty would grow heavier. The defendant would be fined 40s., with two guineas costs.—*Standard.*

NATIVE BEES, &c., OF CEYLON.

Wild honey is very plentiful throughout Ceylon, and the natives are very expert in finding out the nests by watching the bees in their flight, and following them up. A bee-hunter must be a most keen-sighted fellow, although there is not so much difficulty in the pursuit as may at first appear. No one can mistake the flight of a bee *en route* home if he has once observed him. He is no longer wandering from flower to flower in an uncertain course, but he rushes through the air in a straight line for the nest. If the bee-hunter sees one bee thus speeding homewards, he watches the vacant spot in the air, until assured of the direction by the successive appearance of these insects, one following the other nearly every second in their hurried race to the comb. Keeping his eye upon the passing bees, he follows them, until he reaches the tree in which the nest is found.

There are five varieties of bees in Ceylon; these are all honey-makers, except the carpenter bee. This species is entirely unlike a bee in all its habits. It is a bright tinsel-green colour, and the size of a large walnut, but shaped like the humble bees of England. The mouth is armed with a very powerful pair of mandibles, and the tail with the sting even larger and more venomous than that of the hornet. These carpenter bees are exceedingly destructive, as they bore holes in beams and posts, in which they lay their eggs, the larvæ of which, when hatched, feed upon the timber.

The honey bees are of four very distinct varieties, each of which forms its nest on a different principle. The largest and most extensive honey-maker is the "Bambera." This is nearly as large as a hornet, and it forms its nest upon the bough of a tree, from which the

comb hangs like a Cheshire cheese, being about the same thickness, but 5 to 6 inches greater in diameter. The honey of this bee is not so much esteemed as that from the smaller varieties, as the flavour partakes too strongly of the particular flower which the bee has frequented. This in different seasons the honey varies in flavour, and is sometimes so highly aperient that it must be used with caution. This property is, of course, derived from the flower which the bee prefers at that particular season. The wax of the comb is the purest and whitest of any kind produced in Ceylon. so partial are these bees to particular blossoms that they migrate from place to place at different periods, in quest of flowers which are then in bloom. This is a very wonderful and inexplicable arrangement of nature, when it is considered that some flowers, which particularly attract these migrations, only bloom once in "seven years." This is the case at Newera Ellia, where the nillho induces such a general rush of this particular bee to the district, that the jungles are swarming with them in every direction, although during the six preceding years hardly a bee of the kind is to be met with.

The next honey-maker is very similar in size and appearance to our hive-bee in England. This variety forms its nest in hollow trees, and in holes in rocks. Another bee, similar in appearance, but not more than half the size, suspends a most delicate comb to the twigs of a tree. This nest is no larger than an orange, but the honey of the two latter varieties is of the finest quality, and quite equal in flavour to the famed "Mielvert" of the Isle de Bourbon, although it has not the delicate green tint which is so much esteemed in the latter. The last of the Ceylon bees is the most tiny, although an equally industrious workman. He is a little smaller than our common house-fly, and he builds his diminutive nest in the hollow of a tree, where the entrance to his mansion is a hole no larger than would be made by a lady's stiletto. It would be a natural supposition that so delicate an insect would produce a honey of corresponding purity; but, instead of the expected treasure, we find a thick, black, and rather pungent, but highly aromatic, molasses. The natives, having naturally coarse tastes and strong stomachs, admire this honey beyond any other.—From "Eight Years in Ceylon," by Sir Samuel Baker, M.A., F.R.S., F.R.G.S.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

T. PRITCHARD (Bucknell).—*Honey Imports.*—You should write to the Gardening paper referred to as reporting the value of "Honey Imports" into this country, and ask them to "verify their quotations," which are certainly erroneous as given. So far as we are aware, our journals are the only ones in the United Kingdom to which official—and consequently correct—information is furnished, and the imports for every month of the year 1895 appear on page 22 of our issue of January 16 last. We also note several journals quoting our "returns" regularly without acknowledgment of any kind as to where obtained.

J. J. W. ROGERS (St. Albans).—Sample of sugar sent is lighter in colour than any we have hitherto seen, but there is no reason to doubt the assurance given you as to its being genuine Porto Rico. We know, as a fact, that the genuine article named is very difficult to obtain, and that much sold under that name is not Porto Rico sugar at all.

LEARNER (Selkirk).—*Transferring Stocks to New Hives.*—Choose a warm day for transferring when bees are flying freely, and operate when they are returning to, rather than going from, the hive. By doing so the chances of starting robbing will be minimised, as work may be regarded as over for the day. Remove the old hive from its stand, set the new one in its place, and quickly, but gently, transfer the frames with adhering bees with as little disturbance as possible, setting the frames in their original position relatively: cover all warmly down without loss of time, and if the bees in adjoining hives remain quiet, repeat the operation on another stock.

G. B. (Hertford).—*Surplus Chambers.*—1. We should set the rack of sections *above* the box of shallow frames. 2. Half-sheets of foundation will do for shallow frames, as will "starters" only, but full sheets, of course, save time, and, if honey is coming in fast, money, too. 3. The outer combs of brood-chambers may be put through the extractor if containing honey only, but we never extract from combs containing brood. 4. Sample of foundation sent very much resembles some sent us, on which the bees refused to work. We should much prefer to use pale yellow (not white) foundation of this season's make.

ENTHUSIAST (Stonehouse).—*Illustrations for Bee publication.*—1. There are only the lantern slides published by Messrs. Newton, of Fleet-street; and those of A. Watkins, Esq., Imperial Mills, Hereford, depicting bee-scenes, and these are copyright. 2. We cannot say. 3. The old method of removing diseased bees from combs and compelling them to build new ones. 4. No.

"EXTRACTOR" (West Calder).—Comb contains nothing worse than a little mouldy pollen.

NOVICE (Ayrshire).—Comb is affected with foul brood.

A. BRAYSHAW (Brixworth).—*Date of "Royal" Show.*—The show takes place at Leicester on June 22 and four following days.

Editorial, Notices, &c.

UNPRINCIPLED ADVERTISERS.

A correspondent, dating from Blairadam, N.B., on the 2nd inst., forwards a communication in which he says:—"Kindly insert the following in BEE JOURNAL as soon as convenient, and by so doing oblige a constant reader." Then follow details which, if perfectly accurate, as we must assume the information to be, expose a very discreditable transaction on the part of one of the parties concerned. Now no one can regret more than ourselves anything even savouring of dishonesty or unfair dealing on the part of advertisers in our pages, but when a person forwards a few coppers for an announcement in "prepaid column" we are obviously bound to accept payment, and believe in the *bona fides* of the sender. Purchasers can, however, protect themselves by insisting on payment by "deposit," as provided for by ourselves, and that is all the protection we can offer beyond refusing future advertisements from proved defaulters. With reference to publishing the letter of our correspondent as desired, we should be less indisposed to do so than at present if all the possible consequences of publication rested with the writer, and not with ourselves, as is, unfortunately for us, the case. It thus follows, however hard it may be, when one believes himself to be wronged, that he is by law denied the privilege of letting the world know it in his own way. We cannot alter the fact, nor can we print words which are legally libellous because they happen to be true. It must be borne in mind that, in law, "the greater the truth, the greater the libel," so that truth alone does not justify publication.

Swindlers, too, who entrap the unwary by specious advertisements generally make use of respectable journals for their purposes, so that it is not, as our correspondent says, "very strange that people should advertise in a paper like yours, which I always thought was to be depended on, draw money and keep it, without a word of censure being uttered." He then adds: "If this is the way justice is done in England, I am surprised."

Now, without expressing an opinion on the last point, or as to the administration of justice in general, we should indeed be surprised if any honest man in England, or Scotland either, did not reprobate in the strongest manner possible such downright swindling as our Scotch friend justly complains of; but, for ourselves, we should like him to tell us how "words of censure" could be "uttered" in this journal regarding a matter of which we were until now entirely ignorant?

On the other hand, in the interest of readers generally, we very gladly give publicity to so much of our correspondent's letter as—for the reasons stated above—we are not debarred from making public. It appears that in response to an advertisement in our "prepaid column," a postal order was sent in payment for some bees offered for sale, and promised to be forwarded on receipt of cash. The "postal" was duly cashed by the advertiser, but no bees were sent, nor has any satisfaction whatever since been obtainable.

We are making an effort to get some information direct regarding the case, and may know more before these lines appear in print, but in the meantime we advise readers—wherever any doubt exists as to the status of advertisers—to use the deposit system of payment. As already said, we cannot do more than refuse advertisements from persons whose dealings are proved to be other than honest and fair. For the rest, readers can protect themselves whenever necessary, and so, while sincerely sympathising with our correspondent J. S., we cannot say more.

AUSTRALIAN HONEY

SELLS BADLY IN LONDON.

We have more than once had occasion to express the opinion that Australian honey—at least so much of that article as is usually placed on the British market—is not likely to meet with general acceptance for table use in this country. Our views, though fairly given and well meant, were, however, not received quite in the kindly spirit intended—some colonial bee-keepers resenting our very mild depreciatory strictures on the quality of their product as unjust and uncalled for. A cutting from the London *City Press* just to hand, however, rather forcibly confirms the comments we made on the subject when it says:—"The export of honey from Australia to London does not seem to be a very profitable business. A Victorian bee-farmer recently sent a ton of honey to London. The consignment was sold for £16. 6s. 3d., but the charges for freight and packing reduced the net return to £4. 11s. 8d., a sum considerably less than the honey would have realised if sold locally."

The gross price realised was thus one penny three farthings per lb, and the net sum yielded to the producer under one halfpenny per lb.!

HONEY VINEGAR.

We have received from the Rev. G. W. Bancks a sample bottle of honey vinegar, together with a copy of his just-published pamphlet on "The Production of Vinegar from Honey."

For the pamphlet we have no words other than of commendation. It is well written, simple in phraseology, terse, and directly to the point; while the instructions for making the vinegar are so plain as to be readily understood by any ordinarily intelligent person.

For the rest, the author shows his confidence in the quality of the product recommended to the notice of his brethren in bee-craft by sending us a sample of vinegar made by his own hands from his own recipe, and from honey gathered by his own bees.

There is in all this something so refreshingly genuine and novel as to commend itself to all readers who are bee-keepers. The vinegar, too, is most attractive to the eye, both in colour and brightness. The flavour, while less strong than that of some of the vinegars of commerce, is very good, and there is no trace of sweetness, or, indeed, of honey-flavour at all about it. In the words of the maker, "It possesses a delicious flavour and aroma altogether lacking in ordinary vinegar." What is commonly called "strength" in the latter consists, in too many cases, largely of sulphuric acid, or of nitric acid, which is added either as a preservative or to increase its acidity. The injurious effects upon health of these adulterants are, however, obvious.

The question of popularising honey vinegar, is of considerable interest to bee-keepers, for if housewives could be induced to make their vinegar at home from honey by the simple process described, not only would a great saving be effected, but the consumption of honey would be increased by some thousands of tons.

As a calculation on a small scale, Mr. Bancks says: "If only six persons in each parish in the United Kingdom made annually a couple of gallons of honey vinegar, this alone would entail a consumption of a hundred and forty tons of honey." It is also stated that it can be made of the finest quality and perfectly pure at a cost of 4d. per quart.

In view of the general interest likely to be felt by bee-keepers in the above subject, Mr. Bancks has, at our request, consented to supply a sample bottle of his honey vinegar, free by parcel post for 7½d. in stamps, or, together with the pamphlet, for 10d. The price of the latter alone is 2½d., post free. For Address, see advertisement on another page.

BRITISH BEE-KEEPERS' ASSOCIATION.

The annual meeting, to be held at 105, Jermyn-street, W., at four p.m. to-morrow, and the quarterly conversazione which follows at six p.m., promise to be unusually interesting, and we hope to see a large attendance thereat.

MIDDLESEX B.K.A.

ANNUAL MEETING.

The annual general meeting of the Middlesex Bee-keepers' Association was held in the Board-room of the R.S.P.C.A., 105, Jermyn-street, London, W., on March 6, at which Mr. T. W. Cowan presided. The attendance was small, and included Messrs. W. H. Harris, W. G. Smyth, C. H. Landon, S. D. Thomas, Rev. W. Handcock, Major Fair, hon. sec., &c.

The Chairman congratulated the society on the satisfactory state of the finances, and was glad to find the number of members kept up. He found that in some districts there were no local secretaries, and he would urge them to have their vacancies filled, as he thought the welfare of such a society depended greatly upon the influence of the local secretaries, who could keep the interest in the pursuit alive by constant visits to bee-keepers in their districts. He was glad to find that, notwithstanding the severe winter of 1894-5, the honey yield has been fairly good; but although the report was satisfactory on the whole, there was one part which he regretted was not such pleasant reading. He alluded to that portion relating to foul brood, which showed that it was increasing in the country. He found that, whereas in 1894 there were forty-three cases in the spring, these had been reduced to eleven in the autumn. Last year there were eighteen cases in the spring and fifty-seven in the autumn. He hoped the time would come when we should have more control over foul brood, and be enabled to stamp it out. They would no doubt like to hear what was being done by the Central Society with regard to legislation. They will have seen reports in the BRITISH BEE JOURNAL, and would know that a joint committee of representatives of the B.B.K.A. and County Council delegates was formed. This body appointed a sub committee, who were carrying out the details. The matter has been before the Parliamentary Committee of the County Councils' Association, and the executive of this body had asked them to draft a Bill, to put before the Parliamentary Committee for their consideration. He had been in conference the previous day with the Parliamentary draftsman, and thought that they were in a fair way of getting a workable measure prepared. He had been rather astonished that they had not encountered much opposition hitherto. He was aware bee-keepers knew all about foul brood, and those who formed their deputation to the President of the Board of Agriculture, as well as some members of Parliament, understood what they wanted, but there were over 600 members in the House, and these would have to be made acquainted with their proposals. He would impress upon all those present that they should bring the matter constantly before their members of Parliament and County Councillors, so that they may be made thoroughly acquainted with the subject. They should be importuned in season and out of season until the measure is carried. If they persevered they were bound to attain their object in the end.

The Baroness Burdett Coutts was re-elected president, Mr. H. Jonas, treasurer, and Major Fair, secretary. The following were elected

on the committee :—Messrs. T. W. Cowan, W. H. Harris, J. Bolton, J. Gibins, S. J. Gunn, T. Bevan, S. D. Thomas, H. J. Savory, J. N. Farrant, and Rev. W. Handcock. The local secretaries are Major Fair, W. H. Harris, G. W. Smyth. Mr. R. Baldwin was re-appointed expert, and Mr. G. W. Smyth was elected B.B.K.A. representative. At the conclusion of the meeting a drawing for prizes took place.

LANCASHIRE AND CHESHIRE B.K.A.

ANNUAL MEETING.

The annual general meeting of the above association was held on the 24th ult., in Mr. Chapman's Restaurant, Eberle-street, Liverpool, W. Tyrer, Esq., J.P., presiding. The meeting was the most successful and best attended the association has had for some few years past. Those present included the Revs. T. J. Evans and E. Charley, Messrs. T. D. Schofield, J. Bell, F. H. Taylor, H. Firth, G. C. Billington, W. Chapman, W. Lees McClure, W. E. Little, Geo. Roberts, J. Hale, J. Ikin, J. N. Bold, W. Forrester, W. H. Forde, J. Bally, G. Rose, and T. Carr.

The annual balance-sheet (which shows a satisfactory state of the finances) and report were adopted, with the exception of a few lines in the report *re* Legislation on "Foul Brood," which, on the motion of Mr. W. Lees McClure, it was unanimously resolved to alter.

After the usual votes of thanks had been passed, it was resolved that Lord Stanley be asked to be the president of the association for the year 1896. The names of several influential gentlemen were also added as vice-presidents conditionally on their accepting the office.

The executive committee was reappointed, as were also the hon. treasurer (Thos. D. Schofield, Esq.), and hon. secretary (B. E. Jones). Fredk. H. Taylor, Esq., who was appointed hon. librarian, kindly undertook to report on the state of the library, and put it in proper order.

Mr. H. W. Johnston, of Preston, was to be asked to accept the office of hon. auditor.

Owing to the resignation of Mr. W. J. Anstey, it became necessary to appoint a new expert or experts, and after some discussion it was resolved to leave the appointment in the hands of the committee.

On the motion of Mr. McClure it was also resolved that small maps of the counties, having the districts infected with foul brood marked on them, be obtained for the use of the committee and officers. In making the show arrangements for the year it was resolved that the secretary should communicate with the B.B.K.A. on the question of the L. and C. Association having a *Honey Trophy* at the "Royal" show, to be held in Manchester in '97, so that members might be induced to keep by them a sufficient quantity of '96 honey for the purpose, seeing that honey of '97 would not be available at the early date the "Royal" would be held that year.

This concluded the business of the general meeting, after which most of those present sat down to tea.

The committee for 1896 afterwards held their first meeting, when Wm. Tyrer, Esq., J.P., was again voted chairman for the yeare The principal business of this meeting was th election of expert ; and on the recommendation of a sub-committee which had been previously formed to go into the question, it was decided to have an expert for each of the two counties covered by the association, so that the work could be done thoroughly and expeditiously, and it was finally decided that Mr. W. Herrod, of Sutton-on-Trent, Newark, be appointed for Lancashire, and Mr. W. A. Withycombe, of Bridgewater, Somerset, for Cheshire.—(*Communicated*).

BERKSHIRE B.K.A.

ANNUAL MEETING.

The annual meeting of this Association was held in the Abbey Hall, Reading, on Wednesday the 26th ult.. Mr. F. B. Parfitt presided, and there were also present :—Miss Egginton (financial secretary), Mrs. Tomkins, Miss Taylor, and Messrs. J. Eggington, A. E. Hickmott, A. D. Woodley (hon. secretary), F. Cooksey (hon. librarian), J. Henderson, Robey, Shackel, W. Holden, Barefoot, Osborne, A. H. Miller, and H. Witt, C. Baker, F. Paxman, Wilkins, E. W. Goddard, E. Turner, &c. Letters, regretting absence, were received from Mr. A L. Cooper and the Rev. R. Errington.

The Hon. Secretary read the annual report which, after detailing a large amount of satisfactory work done by the association during the past year, concluded with the financial statement, which showed the total receipts on the Bee-van cash account for the past year to have been £151. 4s. This included the grants from the Berks and Surrey County Councils of £50 and £84 respectively and the sum of £6. 13s. received in the shape of donations in response to the special appeal made for funds. The whole of the money received was exhausted in the expenditure, which included a balance of £32. 2s. due to the treasurer on the 1894 account. The receipts on the general cash account, including £43. 4s. 3d. received in subscriptions from members, amounted to £58. 11s. 1d., all of which was expended, with the exception of £2. 9s. 11d., which remains in the hands of the treasurer.

The Chairman, in moving the adoption of the report and balance-sheet, congratulated the association upon the fact that the heavy deficits which had appeared in past reports had been thoroughly wiped out. He was also glad to see that there was an improvement in the membership. In such a large county as

Berkshire, there was still much room for improvement in the membership, considering the inducements made, and the excellent work accomplished by the bee-van journeys, which were favoured and fostered by the handsome contributions of the County Councils.

Mr. Cooksey, in seconding the resolution, ventured to think that Miss Egginton's name should be included in the list of thanks to past officers for past services, and with this alteration the report and balance-sheet were adopted.

The president (Princess Christian) and the vice-presidents were re-elected, as were also the following officers : Mr. A. D. Woodley (hon. sec.), Miss Egginton (financial secretary), Mr. John Simonds (hon. treasurer), and Mr. F. Cooksey (hon. librarian). The central council, with Mr. A. L. Cooper as chairman, was also elected, the only alterations being in the Lambourne and Wantage districts, for which Mr. Goddard and Mr. Wilkins were elected respectively.

The business part of the proceedings ended with the usual votes of thanks.

Mr. E. Turner then read an interesting paper on "Foul Brood," which was succeeded by a social gathering, a large number of members attending. Chief among the very enjoyable features of the evening was a musical programme, arranged by Mrs. Frank Cooksey, which was successfully carried out. A number of appliances used in modern bee-keeping were also on view, under the supervision of Mr. T. A. Flood. Much interest was also centred in a beehive exhibited by Mr. Fry, of Reading, which was made exclusively out of cube sugar boxes at a cost of 3s. 6d.—(*Communicated.*)

IRISH BEE-KEEPERS' ASSOCIATION.

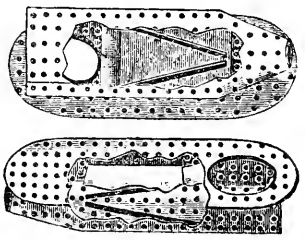
The committee met on 5th inst. Present, Captain Millner, in the chair ; Dr. Traill, Mr. Doherty, and Mr. Chenevix (hon. sec., 15, Morehampton-road). A letter having been read from the Land Commission, stating that the Congested Districts' Board proposed to assist bee-keepers in certain cases, and on certain conditions, to obtain the advantages enjoyed by members of the I.B.K.A., the committee accepted the proposal. The general meeting was fixed for Thursday, April 16, at 12, and a conversational meeting for the evening of the same day.

THE PORTER SPRING ESCAPE.

FOR HONEY-ROOM WINDOWS.

Having quite a quantity of honey to extract during the excessively hot weather of last September, when no nectar was to be had, and robbing was at its worst, and knowing too well how ineffective cone escapes used on extracting-room windows, or escapes made by extending the screen wire to a considerable extent above them, with a bee-space between it and the sides of the building were for excluding robbers at such a time, to enable us to get through with the work without annoyance we made, for this purpose, the escape shown in the accompanying illustration. This escape is a modification of the well-known form of the Porter spring escape, now so extensively used for freeing the surplus honey from bees automatically before removal from the hives, the principle used being the same. It differs from that only in the details of construction necessary to adapt it to this particular use.

The top, or oval part, is perforated along the edges, so that the escape may be readily tached to the casing or window-frame. The body is made of perforated tin, to admit light ; and its open end is extended into a cone to prevent robbers crawling in at the sides of the springs and interfering with the bees passing out, which would occur if it were left open full width. As compared with the other form, the



interior part is reversed in position ; the springs used are somewhat broader, and set slightly more open.

The method of applying these escapes to the window is almost too apparent to require explanation. Merely make ½ in. or ¾ in. holes through the screen wire at its upper corners ; or, in case it is desirable to make holes without injury to the wire cloth, thus leaving it so that it can be replaced when the escapes are removed, if desired, remove the tacks from the corners and turn them down till triangular holes of corresponding size are formed, and then tack the escapes in a vertical position over these openings, so that the bees can pass through them into the escapes. In case the window is provided with an escape made by extending the wire cloth above it, close the bee-space with a strip flush with the top of the window, and proceed as before. If escapes are not to be used on all the windows of the honey-room, preference should be given to those opening to the south or west, so that, on cold days, the bees may have the benefit of the afternoon sun.

After putting these escapes to the severest possible test under the most trying conditions, we have found them to meet all the requirements of a perfect device for this purpose. Since using them we realise as never before how many of the disagreeable features of bee-keeping are removed, and how much pleasure and satisfaction are added to the pursuit by

having all windows of honey and extracting rooms supplied with escapes through which all bees that get in when doors are being opened or closed, or in any of the other ways these persistent little insects have of effecting this end, can pass out easily and rapidly, and not a single robber can enter.—R. and E. C. PORTER, in *Gleanings*.

HONEY IMPORTS.

The total value of honey imported into the United Kingdom during the month of February, 1896, was £3,395.—*From a return furnished to the* BEE JOURNAL *by the Statistical Office, H M. Customs.*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department reports of Associations, Shows, Meetings, Echoes, Queries Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*" *(see 1st page of advertisements).*

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

PREVENTION OF SWARMING.

[2439.] I am afraid with all the correspondence of late on the above subject we are but little "forrader" as to knowing how to prevent our bees from swarming. Mr. Simmins (2437, p. 97) concludes by my silence that I use excluder zinc on my hives. Yes, I do use it, and should be very sorry to be obliged to do without it. I value it highly for its worth; but I did not know that had anything to do with my abstaining from writing. I was not aware that there was any need for me to say more on the subject. I must say I am a bit disappointed with this non-swarming correspondence, because *not* being that happy man "Postman" (2430, p. 87) imagines me to be, with "plenty of time to see after them," I really want a non-swarming hive if such can be had, and seriously contemplated investing in a real "Conqueror" (no patent rights interfere, I believe), but evidence in favour of this style of hive and system seems to be very sparse so far. To judge from reports, most success seems to follow the use of very large hives, and this is in accord with my own experience. I have stated above that I use excluder zinc, but I may say I only use it on hives worked for extracting, and one of the hives I have been working on the "S." N. S. system has never had excluder zinc inside it, and it has been what I consider amply ventilated with a 14½ in. by ½ in. entrance, and a large hole sawn out of centre of floorboard.—BEE CYCLE, *Sussex, March* 7, 1896.

JUDGING HONEY BY "POINTS."

[2440.] I was interested in the correspondence on the question of judging honey which appeared in B.J. some time back. Being at the time, however, busily engaged with other work, I deferred expressing an opinion, though not agreeing with some of the remarks made at the time. I determined later on to give my opinion. Having judged at some fairly large shows, and being moreover a large dealer in honey, I have plenty of opportunity for passing an opinion on its quality. Not that I wish to attach more value to my judgment than that of others equally experienced. Still, in view of my having this year bought some tons of honey for myself and others, I may not be considered presumptuous in giving my ideas on the subject of judging at shows.

First, then, I take no notice whatever of the bottles or section cases in which honey is staged, unless "get up" is mentioned in the schedule.

In judging sections I put *colour* and *capping* first and second, with ten points for each. I place them so because if the capping be thin, the sections are useless for keeping any length of time. *Weight* and *evenness* five points; *cleanliness*, five; and if a large class and keen competition, *flavour* ten points. Unless absolutely necessary, I never cut into sections, as it destroys them for future exhibition.

Regarding extracted honey, I entirely disagree with those who put *colour* before or equal with *flavour* and *aroma*, the last two being in my opinion the chief points. I therefore put *flavour* first, *aroma* second, and I give ten points to each; *consistency* comes third; *colour* fourth, with five points for each. On the point of colour, I place honey of a good bright amber before that very light or white in colour, for it seems to me that the former is far more enticing on the table than the latter, which, according to the opinions I have heard expressed at shows, "looks more like melted sugar than honey." Some of the samples I have seen staged would puzzle many people to distinguish from glucose which had been flavoured with honey.

In no case do I award any points for shape or quality of the bottles.

For granulated honey I give *flavour* and *aroma* ten points each, *granulation* and *colour* five points each. In considering granulation I have always found that honey with a medium-size grain is good in flavour and aroma, and generally so in colour; while that of large grain is generally darkest in colour and weakest

in flavour, with a strong but not agreeable aroma. Honey of very fine grain always has a greasy appearance and taste, with inferior flavour and aroma, though generally it is lightest in colour. Exhibitors make a great mistake by heating honey for showing. Unless very carefully done, it loses both flavour and aroma in the process. Last season I passed over really good honey on this account.

In judging wax I give to *colour* ten points, and consider that which nearest approaches to white is best.

For *cleanliness* I give ten points. I cannot understand the aroma of a sample of wax counting for anything, for if the tiny wax-scales dropped by a swarm during the first few days after being hived be carefully gathered up and tested, no smell will be found; therefore, if there is any aroma it is caused by something other than wax.

In judging I always take notice of the number of exhibits in the class, finding it easier to enlarge the number of points to the above proportion than to split them up to halves and quarters. In one case I had upwards of eighty bottles of honey in one class, with eight prizes to award, so I adopted 100 points as the maximum, and worked accordingly.—JOHN PERRY, *Oxon.*

A CHEAP SPRING FEEDER.

[2441.] Allow me to recommend a very cheap and most useful spring feeder for bees, which I have used for several years with great success. Take an ordinary frame, and screw or nail it on to a piece of thin board. Get two tin troughs made, 13¼ in. long and 1½ in. deep. The back of trough is made 2 in. higher than front edge, and has two holes whereby it can hang on small nails, driven through the board covering one side of frame. Fill the trough with moist sugar (I use Demerara), or syrup, if preferred, and insert the feeder between the last frame and the back dummy of the hive, if frames hang parallel to entrance, or at the side if right-angled. It can be examined as often as desired, and when empty replaced by a full one, with the least possible disturbance to the stock; and when you find the bees clustering and beginning to build comb along top bar of frame you may know that they are ready for supering. This last fact is invaluable.—C. C. JAMES, *Wortham Rectory, Diss, Feb.* 28.

BEE-KEEPING IN YORKSHIRE.

NORTH RIDING C.C. AND TECHNICAL INSTRUCTION IN BEE-KEEPING.

[2442.] In connection with the above, a course of two consecutive pioneer lectures has been delivered by Mr. Peter Scattergood, jun., at each of three centres, viz., Helmsley, Stillington, and Northallerton. The courses commenced at Helmsley on February 24, good attendances being the rule on each occasion, and great interest evinced by the audience at each place both in the lectures and the hives and appliances exhibited. Many questions were asked and suitably answered by the lecturer. At Helmsley a district association has since been formed, to be called the Helmsley and District Bee-keepers' Association. The Earl of Feversham was unanimously elected President, together with a representative committee with the Rev. C. N. Gray, as chairman, and myself as hon. sec. It is hoped that the interest aroused may be continued, and that bee-keepers in the district will benefit themselves by joining the local association. Capital meetings were also held at Stillington, the national school being well filled by enthusiastic audiences, with the result that some old bee-keepers will make a re-start, and several new ones a beginning. The most successful bee-keeper here is a lady (Mrs. Kirk), who owns forty-five hives, and it is mainly owing to her energy and public spirit that lectures were given here. There is plenty of room in this direction for bee-keepers, but I rather fear that too few ladies possess the requisite courage to handle our busy little friend, the honey bee. Time will show, however.—ROBERT NESS, *Hon. Sec., Sproxton, Apiary, Helmsley, Yorks.*

WHAT IS PURE HONEY?

[2443.] Having been responsible for starting the discussion relating to the use of old combs or new for extracting, I should like, in reply to "South Devon Enthusiast" (2421, p. 75), to refer to one or two points which, so far, have not been noticed. The bee-keeper working for the largest quantity of extracted honey cannot avoid using more than one set of combs actually occupied with brood at the fore part of the honey season; but if only one brood-chamber is used, my point will, perhaps, be quite as well understood.

A large proportion of the honey as it is daily gathered is first placed in the actual brood combs. When the incoming is heavy, the honey gatherers appropriate the cells as they are vacated by the hatching young, for the temporary accommodation and more rapid ripening of the nectar. These cells do not then undergo the same polishing and varnishing that the set of surplus tough combs receive which have been arranged beforehand. In emptying these provisionally stored cells, or any that may already have been capped along the upper margins of the brood combs, for storing in the supers, the cells are, as it were, wiped out dry by the bees' brush-like tongues. Is this honey contaminated before reaching those immaculate surplus combs which our friends of the opposition tell us ought alone to be used, or is there really any difference in the quality of the honey, whether it be extracted from a super of new combs or

clean old combs, seeing also that, in the process of extracting, the honey in actual contact with the cell walls is not scraped out, even if it leave them at all?

When we can "muzzle" our industrious workers that they shall not be so naughty as to make use of their brood-combs before passing the honey to the surplus chambers, and may also thereby be prevented from carrying up the capped stores from those heavily-charged combs, the bee-keeper often finds it desirable to shift to the centre of the brood-nest—then the advocates of new combs may have more than a passing fancy to back up their arguments. In the meantime I do not think even these bee-keepers will be content to forego those legitimate manipulations, which, while securing the largest yields, make the darker combs the unavoidable medium. If we are satisfied to use only new combs for extracting because "Fancy may have something to do with it," and, therefore, sacrifice quantity for a fancied quality, I fear there will be no room for professional honey-producers in the future; while the honey-purchaser, if educated up to such a fine point of distinction as he "ought in fairness to be," will be all too wise for the average bee-man to have dealings with.—SAMUEL SIMMINS.

CORRECTION.—In my article of February 27 (p. 89), fifth line from the top. For "lower combs," read "burr-combs."—S. S.

[This subject has now had ample discussion in our columns; we, therefore, close it with a line of reply to the query which heads the above communication, viz.: "What is pure honey?" Pure honey, then, is that which has been carefully kept from contact with everything that is impure, not even excepting cells of old brood-combs.—EDS.]

Queries and Replies.

[1428.] *Artificial Heat for Protecting Brood in Spring.*—Being desirous of having certain of my hives extra forward this season, I thought that I might ward off "chills"—so disastrous to spreaded and added brood—by arranging for a small paraffin lamp to be burning against a flat brick tile, and contiguous to the underside of the floor-board, throughout March. Would the evaporation consequent on this slight warmth go on too rapidly this time of the year, even if I fed with thin syrup?—G. YATES, *Aston.*

REPLY.—Without entering at great length into the why and wherefore of the reasons for discouraging our correspondent's proposed experiment, it may be said that of all the many (and they are many) trials made in the direction of applying artificial warmth to hives in cold weather, none have proved other than disadvantageous in the end. Brood-nests of hives are best left alone in March, and where experience warrants safe brood-spreading, it is always so managed that the bees are numerous enough to cover it, even in the event of a cold snap.

[1429.] *Hilbert's Method of Cure for Foul Brood.*—On p. 74 of BEE JOURNAL for February 20, in the article on "Foul Brood and its Treatment," I read that "in 1875 Hilbert, whose apiary was affected with foul brood in its worst form," &c., and after "many failures with salicylic acid eventually discovered a method by means of which he effectually got rid of the disease from his apiary." Will you kindly give particulars of Hilbert's method in next week's issue of JOURNAL?—WM. HINSON, *Westholm, Reigate.*

REPLY.—The full particulars would occupy too much space here, but may be found on pages 146-7-8, and 9 of the Guide Book, together with an illustration of the apparatus used.

[1430.] *Comb-building by Nuclei.*—Having read with interest your suggestions on "Comb-building by Nuclei" on page 91, I should like to ask whether a stock on two combs such as described will be able to store sufficient food for their support, or will they want continuous feeding? This is an important detail, and one would like to give the plan a fair trial. It looks as if it ought to work extremely well.—C. E. C., *Etton Rectory.*

REPLY.—It is generally (and should be always) understood that nucleus colonies of bees in this country require constant attention in the matter of food. If honey is very plentiful no doubt the bees will gather sufficient for their daily consumption, but they seldom do to be left to themselves in this respect.

[1431.] *Dimensions of the "W. B. C." Hive.*—1. In the instructions how to make a "W. B. C." hive in B.B. JOURNAL, February 1, 1894, referring to dimensions of body-box (page 50), it states, "The front and back boards are 8¼ in. wide." Is that correct? As if the frame is 8½ in. deep and top bar is ⅞ in. thick, it only leaves ⅛ in. underneath. I think of having the top bar ½ in., and that will leave the ¼ in. space required. 2. I shall make the frames with wide ends, 1½ in., and so I ask would it answer to make them in halves and screw them together with the foundation, so that they can be easily taken apart to fix foundation when necessary? 3. I should much like to see full instructions how to make the "Cowan" hive. Will these appear in print? 4. Is it any advantage to have a reversible sliding floor-board? 5. I have the two last numbers of *Record*, and intend taking it regularly. Will you send it to Vancouver, British Columbia, at 2s. 6d. per year, post free?—DAVID HANCOX, *Deddington, Oxon.*

REPLY.—1. Any variation from the measure-

ments given in B.J. referred to will upset the whole. Our correspondent has overlooked the fact that the "metal runners" mentioned raise the frame a full ¼ in. from floor-board, and bring the upper side of top-bars flush with "side-pieces," these latter being 9 in. deep as stated. The space between bottom bar of frame and floor-board is thus half an inch. We do not recommend any deviation from the standard-frame; therefore if you decide on a ½ in. top-bar instead of ⅞ in. the dimensions must be altered. 2. By "wide ends" we suppose wide shoulders is meant. This being so, they will answer made as described. 3. For the instructions asked for, we must refer you to new edition of Guide Book now preparing for press. 4. There are some advantages in the sliding floor-board, but it has not found permanent favour, first because of tendency to cause bee-crushing, and, second, its requiring the hive to have fixed legs. 5. *Record* will go to Vancouver Island for ½d. stamp.

[1432.] *Giving Sections to Stocks short of Food.*—My bees have been very active taking in pollen and water during January and February. This month, however, threatens to be very severe, and should it continue so they may require to be fed. Could I put a section of honey over the frames—a piece of glass over it to see when the honey is used? —M. C. D., *Westmeath, March* 7.

Reply.—If the honey in section is liquid, there can be no objection to feeding bees as stated.

[1433.] *Extracted Honey v. Sections, for Profitable Working.* — 1. I have recently bought three fairly strong stocks of bees in frame-hives, and have received with them a number of "Benthall" crates and two way sections. These crates I do not fancy, as they seem clumsy, and were much propolised when last used. I must, therefore, buy new supers, and my object in writing is to inquire whether you would recommend the use of sections or of shallow-frames. The latter would necessitate the expenditure of a guinea for an extractor, and the purchase of bottles, &c., and would, therefore, not be worth doing unless I could calculate on getting, say, 8 lb. or 10 lb. more honey from each hive than with sections. But judging by letters in your and other papers, I gather that some bee-keepers obtain as much as 20 lb. to 30 lb. more from frames than from sections. 2. I should also be glad of advice as to whether it would be well to put two of the stocks into a "Wells" hive, or leave them as single hives?—H. J. M., *Sydenham, S.E., March* 8.

Reply.—1. It is generally admitted that much heavier weights per stock can be got by working for extracted honey than are obtainable by "sectioning;" the increase being amply sufficient to warrant the outlay for purchase of an extractor. We should call 20 lb. or 30 lb. extra a moderate computation, if the district is a good one. 2. Our advice is—don't try the "Wells" or double-queen system till you have gained a year or two of experience in bee-management. The chances of success with it will then be considerably increased.

[1434] *Using Sections from Foul Broody Hives.*—Would it be prudent to use sections fitted with foundation in the usual way, and put on hives last year, in which foul brood in a bad state was afterwards found? They are still in the racks, and look as bright and fresh as when first put in. My own opinion is that it would be better to burn the sections, and melt down the foundation.—R. M. Martin, *Glanmure, Cork.*

Reply.—We are glad to note that your opinion, as expressed above, is in favour of burning sections and melting down the foundation. It quite accords with our own view, and is by far the wisest course to follow.

[1435.] *Using up Fermenting Syrup for Bee-food.*—I have a fair number of combs containing syrup, which was fed to bees last autumn. These combs were removed from the hives when made up for winter. Part of the store is sealed and part unsealed. I was intending to use them to feed the bees from behind the dummy, but on looking up the combs I find the syrup has gone very thin and watery, and drops from the combs on the least movement. I had no place to store them in my house, and they have been hanging in an empty greenhouse during the winter. The syrup has a slight tart taste, and I want your opinion as to its being safe to feed the bees with it? If the uncapped syrup is not safe, what do you think of my using the store after having put the frames through the extractor, so as to take away the thin syrup? Your kind advice will oblige.—Lancashire, *Blackburn, March* 7.

Reply.—There is some danger in giving syrup in the condition named at this season. In summer time no harm would follow, but we should extract the unsealed store and boil it along with other sugar for syrup. The sealed food may, of course, be given now.

WORK FOR THE COMING SEASON.

A correspondent, writing in *Gleanings* to Mr. G. M. Doolittle, and asking for helpful information as to the coming summer's work, the latter replies in effect as follows:—

"The first work is to get our sections which have been in use the past season in readiness for the next harvest. Scrape off all propolis adhering to the tin separators and bits of comb, should there be any, fastened to bottoms of wide frames. All these bits of comb should be saved; the wax-extractor being close at hand, and all waste pieces of comb put into it during the whole season. As often as it is full get out the wax, and have it ready

to fill again. Partly-filled sections should have the honey extracted, as it will not correspond in colour or quality with that which the bees will fill out with next season. To extract this nicely, fix a shelf close to the ceiling of your room; put the honey thereon, and keep the room so warm that the mercury stands at 90 to 100 deg. for three or four hours before you commence to extract. By placing the honey near the ceiling we need less fire to heat it than if placed on the floor or a bench. These partly-filled sections, if extracted without warming, would be ruined, so far as the combs are concerned, as would the apiarist's prospects of a large yield of honey the coming season; for, according to my value, they are better than money in the bank. After the honey is extracted, these sections are used as "baits," which should always be placed in the centre of the sections on top of the hive, so as to secure an early commencement of work by the bees in them. The full sections, too, are not all removed at once, as it would cause the bees to be loth to enter a second lot. Fill the rest of the wide frames, or cases, with empty sections, each having a starter of *thin* foundation, or use full sheets of foundation, as preferred. Having all complete, pack away where they will be ready for use, at a moment's notice, in June.

Our next work is to secure any further sections likely to be needed, and make them up. I allow 150 1-lb. sections for each colony I expect to begin the season with in the spring, and after twenty-five years of experience I find this estimate not far out of the way. Always have enough sections prepared; it is better to have a few left over than to find our supply exhausted in the midst of a good honey-flow. Many put off this getting-ready part till spring, so that they may know how the bees winter; but the bee-keeper worthy of the name never does this, for if the getting-ready part is put off till just before the honey harvest the result is always greater or less loss.

We next make what hives, frames, coners, &c., we think we shall want for use the next season. Then wire the frames and put in the brood foundation, resting assured that the bees will work foundation just as well if put in now as if it had been put in the frames an hour before placing in the hive.

After having the frames thus prepared pack all nicely away as before.

Then there are the shipping crates for honey, to be got ready; queens' cages, too, if we raise queens for sale; and any or everything we may have planned by way of experiments we wish to try in the near future, all of which should be prepared beforehand so that when spring opens, we can give our whole attention to the bees.

To succeed in the bee business you must do these things, and will find pleasure in doing them, rather than wait to see "what will turn up" with the bees and your business. Above all else in importance is a thorough knowledge of apiculture; and the long winter evenings are just the time to gain that knowledge. Read back volumes of *Gleanings* and other bee-papers, if you have them. Procure also one or two good books on bee culture, and read them thoroughly, so as to put what you learn in practice the next season, and thus have an answer to what would otherwise be a puzzling question just at the busiest season of the year. Thus you can be always advancing, instead of standing still or retrograding. If you are not sufficiently interested in the study of bees to learn about them during long winter evenings, I can give you no assurance of success; as my knowledge of the business compels me to say that in this, as in all other pursuits, success comes only to those who so work as to attain the desired end."

BEES.

Lest any one should hope to find practical information in these remarks, we declare at the outset that our ignorance of bee-keeping is utter. We never owned a hive, and we have neglected every opportunity to profit by the experience of our friends. Upon the science of the matter we are equally ill-informed. Neither "apiarians" nor entomologists will discover any useful hints in this article, unless by chance they care for the annals of honey bee, and the varied circumstances of its domestication. There is material for a volume, or a series upon those themes; indeed for all we know, dozens have been published ages since. But any one who reads attentively and travels with open eyes must collect some facts for himself upon a subject of such wide though limited interest. Some bee-keepers may be surprised to learn that "the ancients" knew quite as much—practically if not scientifically—about the habits and character of the insect as did Europeans fifty years ago. It is commonly assumed, from the description of their land as "flowing with milk and honey," that the inhabitants of Palestine kept bees before the Jewish invasion. But it does not follow of necessity. Other passages refer to wild bees which dwelt in "stony rocks." Egyptian writings mention honey, both as an eatable and as a favourite offering to the gods; but we believe that no representation of the culture has been found in the numberless pictures of domestic or farm life there. Upon the other hand, Sir Gardner Wilkinson reports that bee-keepers at the present day—at least, in his day—had to transport their hives from one place to another continually because flowers were so rare; but perhaps this is not a serious argument, for ancient Egypt must have been all gardens or tilled land to support such a dense population. The earliest evidence of culture is Greek. Hesiod refers to it, Aristotle knew all about it; not quite accurately, but enough for practical purposes.

He knew that bees have a sovereign or head; but very naturally he supposed that it was a king who ruled the community like a wise despot. The notion of a monarch who reigns but does not govern would have seemed mighty absurd to the Greek logician. Aristotle understood, too, that drones do not work, though they eat, and their existence puzzled him. Honey was taken by smoking the bees to death just as with us till a very few years ago. It is curious to remark that the Stagyrite doubted the utility of clattering pots and pans to make them swarm—further evidence of his astonishing acumen if any be needed. "The country people say they attract bees to the hives by striking vessels together and making noises." But he himself is not satisfied that they can hear at all; if they can, it is at least as likely that alarm, not pleasure, causes them to enter the hive. Frogs and toads are their deadly enemies. The latter sit at the entrance of the skep and blow into it, poisoning the inmates. We would almost venture to say, without any information on the point, that the same fancy prevails in unsophisticated districts of Great Britain. Upon the whole it is clear that bee-keeping was studied in Aristotle's day.

The Romans went further both in science and practice. There were enthusiasts then; such always existed, perhaps, but they had no Pliny to immortalise them. He tells how Aristomarcus of Soli passed fifty-eight years in observing bees, neglecting all other business for that object. There was another api-maniac—Philiscus of Thasos, surnamed Agrius, because he spent all his life in waste places tending swarms of bees. Both wrote books. Thanks to them, perhaps, the Romans had no small knowledge on the subject. Celsus could write, in that most interesting attack on Christianity which Mr. Froude examined some years ago, and Professor Max Müller criticised once more a few weeks since, when dealing with the claim advanced for man's superiority above all other created things: "Ants and bees could make out a case as good. They too have their chiefs, wage wars, capture enemies, have towns with suburbs, division of labour, punishment for the idle drones, cemeteries for their dead. They reason when they meet upon the road. To one looking down from heaven there is no great difference between the doings of man and of these insects." The passage is well worth attention. It cannot be supposed that in a work so grave and so influential that Origen found it needful to draw up a reply seventy years later, Celsus was talking at random. But if there be meaning in words we must suppose that he was acquainted with facts in the natural history of ants which made a sensation when rediscovered in our time. The allusions to "captured enemies," and to reasoning when they meet upon the road, are specially notable. —*Standard.*

(*Conclusion next week.*)

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

W. WHITEHEAD (Alton, Hants). — *Demerara Sugar for Bee-food.* — 1. Raw, or unrefined, Demerara sugar is quite unsuitable for making into syrup for bee-food. It contains so much of the treacle or molasses as to be conducive of dysentery, in bees especially, when consumed in winter. Refined, or *crystallised* Demerara, on the other hand, is a good sugar for syrup made for use in spring; but loaf sugar or white crystals are, undoubtedly, best for the purpose. 2. If all honey be taken from a hive in autumn, the bees should have 15 to 20 lb. of sugar—properly made into bee-food—given, to make them safe from want till the following summer.

G. E. ANCOTT (Oscott).—*Shaking Bees from Combs.*—The queen would run far less risk of harm from brushing, or even shaking, her off the combs along with the other bees, than by "picking her off first before brushing." Experienced hands usually shake the bees off unless queen-cells are hatching on the comb at the time, in which case they should be removed with a goose wing.

BRACE-COMB (Urmston).—When almost every trace of brood in comb is completely dried up—as in samples sent—it is difficult to say whether foul brood exists without microscopical examination, which is not always convenient. We have, however, no doubt that the stock from which the comb was taken is affected, a single cell affording a definite clue to warrant the opinion.

BURLEY BEACON (Ringwood).—*Mouldy Store-combs.*—Combs in which a few cells of pollen are found, and the latter "slightly affected with mould," as stated, may still be used as store-combs. The bees will themselves remove the mould, but if the pollen is quite hard—as it probably will be—we should pick it out (to save the bees labour) without destroying the septum or mid-rib of the comb. The latter will then be all right for future use.

H. E. S. (Winchfield).—Super-foundation is now made with so extremely thin a mid-rib as to nearly approach that of naturally-built comb. At the same time it cannot be denied that honey intended to be eaten along with the comb containing it is never quite so palatable when full sheets of foundation have been used as when only "starters" are given to the bees.

A. N. (Maybole).—Both pieces of comb sent are affected with foul brood.

A. J. H. W. (Ripon).—The book referred to is not what may be called scarce, but is worth from 3s. to 4s. if in good condition.

A. W. (Hereford).—Comb sent is affected with foul brood.

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION.

ANNUAL MEETING.

The annual meeting of the members was held in the board-room of the S.P.C.A., 105, Jermyn-street, W., on the 13th inst. Among the large number of members present were :—

Mr. R. T. Andrews, Hon. and Rev. H. Bligh, Revs. G. W. Bancks and W. E. Burkitt, Mrs. Bancks, H. W. Brice, T. C. Bevan, S. J. Baldwin, T. W. Cowan, W. B. Carr, Miss Dawe, Miss Gayton, W. O'B. Glennie, J. M. Hooker, W. H. Harris, Rev. W. Handcock, H. Ashdown-Jones, H. Jonas, W. P. Meadows, J. H. New, Rev. F. T. Scott, P. Scattergood, jun., J. P. Sheppard, E. D. Till, T. I. Weston, and Wm. Woodley.

In the unavoidable absence of the President, the Baroness Burdett-Coutts, Mr. T. W. Cowan (Chairman of the Association) presided. The minutes of the last annual meeting having been read and confirmed, the Chairman, in moving the adoption of the report and balance-sheet, dwelt upon the necessity for improving the financial condition of the Association. Much expense had been incurred during the past year in work tending to benefit every bee-keeper in the kingdom. He urged upon all members belonging to County Associations the necessity of inducing new members to join the central or parent association, because if its efficiency was to be extended, or even maintained at its present standard, it was absolutely necessary that the list of annual subscribers be increased. In referring to the work of the past year, special notice should be taken of the marked progress towards obtaining legislation with regard to foul brood. Those present had had to-day placed in their hands a printed statement containing "Particulars regarding the bee-keeping industry of the United Kingdom," and added to this was a statement of the steps taken with a view of obtaining legislation for dealing with foul brood among bees, full details of which he (the Chairman) observed had already appeared in the BEE JOURNAL. He might, however, explain that since the influential deputation waited on the President of the Board of Agriculture in May last, they had had a conference of delegates of County Councils and this association, and a sub-committee was appointed to carry out details. They had waited on Mr. Elliott, the secretary of the Board of Agriculture, and finding the Board, although in full sympathy, unable to bring in a measure during the present session, they had applied to the County Councils' Association to take up the matter. He had had an interview with Lord Thring and subsequently Mr. McClure and himself were asked to attend the Parliamentary Committee of the County Councils Association, the result being that the executive of that body had asked them to draft a Bill.

The Chairman added that they had been in communication with Mr. Fitzgerald, the Parliamentary draughtsman, and the draft Bill will be submitted to the Parliamentary Committee of the County Councils' Association, who had held a meeting on the previous day, but the draft not being then ready, it was to be laid before them on the 18th inst., and if it met with their approval, it would be recommended to the Executive, and through them would come before all the County Councils, probably within the next three months, when they would decide whether they could approve of the measure or not. If they approve, little difficulty will follow so far as getting the matter carried through, provided we work in accord with them. He was surprised to find how little opposition they had so far encountered, but he could hardly expect this to continue, so he wished to impress upon every member of the Association that the Members of Parliament in their respective districts should be interviewed, where possible, and their interest secured. In this way we might be sure that when the Bill is introduced in Parliament we should have a great chance of getting it through. Of course, the Council cannot possibly urge the matter on all the 600 Members of Parliament ; we must therefore rely upon individual effort in this way, and by constantly importuning Members of Parliament he (the speaker) was confident that the measure would be ultimately carried.

The Board of Agriculture have consented to issue a leaflet on the subject of foul brood during the coming spring or summer, when it will be circulated and sent to all the country papers ; a copy will also be sent free to any one applying for it.

In concluding, the Chairman referred to the loss sustained to the Association by the death of the late John Huckle, who had been its faithful secretary for many years, and to the loss sustained by the whole bee-keeping community in Europe and America by the deaths of the late Rev. L. L. Langstroth and Dr. A. de Planta, the eminent Swiss scientist, whose deaths had left a space not easy to fill.

The motion was then put to the meeting, and carried unanimously.

Mr. P. Scattergood, junior, in proposing a vote of thanks to the retiring officers and council, said that he was much impressed by the splendid work initiated and carried out by the council during the past year as set forth in the statement put before the meeting, and further explained by the chairman. He could also endorse the tribute paid to the memory of the late John Huckle, and believed the council had done a wise thing in the appointment of Mr. Young as his successor.

The motion was seconded by the Rev. E. Burkitt, and carried unanimously.

The Hon. and Rev. H. Bligh, in moving a vote of thanks to the Royal Society for the Prevention of Cruelty to Animals for the use of their board-room for their meetings, bore testimony to the very kind way in which the interests of the B.B.K.A. had been considered by the society, especially by the Baroness Burdett-Coutts, who also honoured the Association by being its president.

Mr. Carr seconded, and the motion was carried unanimously.

Mr. H. Jonas, in moving the re-election of the Baroness Burdett-Coutts as President for the year 1896, said that—notwithstanding her multifarious engagements, and—he was sorry to say—not too robust health just now, her ladyship had continued the steadfast friend of the association for many years, and very great regret was felt by all present at her absence that day, as well as at the cause of that absence. The speaker included in his motion the re-election of Sir James Whitehead as vice-president. Sir James was another staunch friend of the Association, and would, no doubt, render them valuable assistance in the matter of the proposed legislation. He might add that the secretary had just told him that he (Sir James) had contributed a handsome donation to the funds of the Association for this year; but he would pass on, and propose Mr. O'B. Glennie's re-election as treasurer, Mr. Kirchner as auditor, and Mr. Otto Hehner as analyst, all of which gentlemen would, he trusted, contribute their valuable help in the future as in the past. He also proposed Mr. Young, as librarian, in room of the late Mr. Huckle. Mr. Hooker seconded. Carried *nem. con.*

Referring to the election of honorary members, the Chairman again mentioned the death of two of these, viz., the Rev. L. L. Langstroth, and Dr. de Planta. But he had pleasure in proposing that Professor Cook, of California, should be elected an honorary member in the place of the late Rev. L. L. Langstroth. Seconded by Mr. W. B. Carr, and carried unanimously.

The Secretary announced that the following gentlemen were elected to serve on the Council for the ensuing year:—R. T. Andrews, Hon. and Rev. H. Bligh, Rev. G. W. Bancks, H. W. Brice, Sir T. D. Gibson-Carmichael, Bart, M.P., T. W. Cowan, W. Broughton Carr, Rev. R. Errington, Major A. W. Fair, W. H. Harris, Henry Jonas, J. H. New, W. J. Shephard, E. D. Till, and T. I. Weston.

Mr. E. D. Till then rose and said: Preceding speakers had had comparatively pleasant matters to deal with, but he had been asked to move the next resolution, which was as follows:—"That the present arrangement with affiliated associations, for the supply of medals and certificates, be continued."

Mr. Till then went on to say: According to the rules as originally framed the fee of one guinea paid by County Associations for the privileges of affiliation included among those "privileges" certain medals and a certificate, which said articles actually cost the parent Association within a few pence of the guinea received from its affiliated association. Now, it was obvious that the B.B.K.A., with the large amount of important work cast upon it—work which cost much money, too—could not get on, nor was it fair that it should be expected to get on, without some real financial help from its affiliated associations, who so directly and largely shared in the benefits of that work. There was no objection to County Associations supplying their own medals if that course was preferred, nor would the Council have objected to a continuance of the original arrangement if their funds permitted it; but unfortunately this was not so, and he felt it was the duty of every Association in the country to help the "British" in every possible way to the fullest extent; for it was a fact that the expenses incurred in forwarding the general interests of the pursuit, including the proposed foul brood legislation, fell very heavily indeed upon the members of the Council, and the few who had raised objections to the extra payment for medals, &c., he felt sure did so from want of knowledge of the good work carried on by the Association. He was confident that proper reflection would make it plain to all that the parent Association were dealing very liberally with the affiliated associations in doing so much and asking for so little in return.

Mr. Jonas, in seconding the motion, observed that, as chairman of the finance committee, he could say that the heavy liabilities of the Association were constantly coming before him, and he felt it was for the benefit of all concerned that the affiliated County Associations were asked to continue this extra payment, and he felt sure also that the latter were looking at the matter in a far more favourable light than they had done in the past, because of being now better informed on the facts of the case than formerly. The resolution was carried unanimously.

The Rev. E. Burkitt called attention to the great delay that arose in sending in the printed reports of County Associations for binding, and the inconvenience arising therefrom, and moved that the date within which they should be received be May 31 in each year.

Mr. H. W. Brice, in seconding, said one of the conditions of affiliation was that the report should be printed in February and sent in by March. May 31, therefore, gave ample time for this condition to be fulfilled.

The Chairman stated that five County Associations did not send in their reports for binding until quite late in the year. Yet it is very important that no reports should be missing from the yearly volume. He would be glad to see this resolution passed, while leaving the date of binding or omitting late reports to the Council. If this resolution were passed, and the same notified

to the secretaries, no doubt it would induce them to forward their reports as soon as possible. Carried unanimously.

The Chairman moved, and it was carried, that in rules 7 and 9, the word "secretary" be struck out.

The Chairman then said he wished now to bring forward Mr. McClure's proposition, as they were deeply sensible of the great courtesy shown by Lord Thring (as chairman), and the members of the Parliamentary Committee of the County Councils' Association, who had taken a great deal of trouble in the foul brood question, and he would therefore have pleasure in moving, "That at this twenty-second annual meeting of the British Bee-Keepers' Association, a vote of thanks be awarded to Lord Thring and the members of his Committee for their kind interest in the subject of foul brood legislation, and venture to hope that Lord Thring would see his way to introduce into the House of Lords a measure for the suppression of the bee pest commonly known as foul brood." This was seconded by Mr. Harris and carried unanimously.

A vote of thanks was unanimously accorded to retiring members of the Council, Mr. J. Garratt, and Mr. C. Hooper.

Mr. Harris proposed that the regrets of the meeting should be sent to the Baroness Burdett-Coutts at her inability to attend on account of her health, and expressing the hope that the Association should still have the benefit of her influence in the matter of the proposed legislation, and tendering the thanks of the meeting for her interest in the Association.

Major Fair seconded the motion, which was carried unanimously. This terminated the business portion of the proceedings, the meeting concluding with the usual vote of thanks.

(*Report of first meeting of Council and also of Conversazione next week.*)

LEICESTERSHIRE B.K.A.

ANNUAL MEETING.

On Saturday afternoon, March 7, the fourteenth annual meeting of the above Association was held at the Victoria Coffee-house. Sir Israel Hart presided, and amongst the large company present were Dr. and Mrs. Fulshaw, Alderman Underwood, Councillor C. J. Bowles, C.C., Mr. and Mrs. Falkner, Miss Chester, Miss Throsby, Miss Widdowson, Messrs. H. Dilworth, N. Silcock, Riley, Meadows, A. Brown, J. H. Topley. T. H. Earp, T. Cumberland, J. H. Tailby, J. S. Shenton, T. Billson, A. H. Peach, G. Brown, J. Fewkes, W. Simpkin, E. N. Lewis, P. Scattergood, A. G. Pugh, G. W. Marriott, A. C. Skinner, A. L. Roberts, J. Waterfield (secretary), &c.

The report and statement of accounts for 1895, presented by the secretary, stated, among other items of interest, that the financial condition of the Association was better than last year, and showed a small balance on the credit side. The membership, too, had increased, and successful honey shows held, first in connection with the Leicestershire Agricultural Society, another at the Abbey Park Show, and the third at Loughborough, under the auspices of the local Agricultural Association, all of which exhibitions—though not so large as if the honey season of '95 had been better than it proved—were full of interest and very satisfactory to all concerned.

The report and balance-sheet were approved and passed unanimously.

The president, vice-presidents — with the addition of Sir Israel Hart—were re-elected. The Rev. T. C. Deeming and Mr. Martin having resigned their positions on the committee, the names of Mr. Lewis and Mr. Peach were substituted, and with this change the committee of last year were re-elected, as were also the treasurer, Mr. Riley, and the secretary, Mr. Waterfield, with Mr. Underwood, jun., as auditor.

Mr. W. P. Meadows and the secretary were appointed representatives of the Association at the meetings of the British Bee-Keepers' Association.

The Chairman, having presented the prizes to the successful competitors at the various shows during the year, was accorded a hearty vote of thanks for presiding.

The company, numbering seventy-six, afterwards partook of tea together, at the conclusion of which the annual prize drawing took place, the prizes for which were contributed by the Association and several appliance manufacturers. At about 7 p.m. an instructive and interesting lecture on bee-keeping, illustrated with suitable lantern slides, was given by Mr. P. Scattergood, jun. This gentleman, with his usual ability, kept the lecture well-supplied with useful hints on profitable bee-management, and it was highly appreciated. A vote of thanks to the lecturer brought a very successful afternoon's proceedings to a close.—(*Communicated*).

ABOUT OUR BEES.

BY HENRY W. BRICE.

IX.

SPREADING BROOD AND SPRING FEEDING.

Of all bee operations, that of "spreading brood" is perhaps the least understood, and certainly the most abused. Nor can the fact be denied that this particular manipulation of the brood nest is productive of frequent disaster through being mismanaged, while every bee-keeper will admit that the success or failure of a season very largely depends on the skilful carrying out of the expansion of the brood-nest to meet the requirements of bees and seasons. No rule of thumb, however, can apply to this phase of bee-keeping, conse-

quently all beginners must be strongly advised to leave it severely alone when "spreading" means a displacement of the natural brood-nest. But, apart from beginners, there are many old hands who spread the brood to the detriment of their bees, and the end they are hoping to obtain. Be content, therefore, as the hive gradually fills up with newly-hatching bees, by adding one frame of comb to those already in. We are sometimes told that as bees show signs of progress in early spring, an empty frame of comb must be placed right in the centre of brood-nests about once a week. This is dangerous, and requires something more than the knowledge possessed by an ordinary bee keeper to enable him to correctly judge when a brood-nest, at the most critical period of the year, can be safely cut in two with a blank wall intervening between the parts. Stocks are thrown back for weeks in early spring by this operation alone; at a time, too, when of all others the brood-nest requires the conservation of its warmth by every possible means. By inserting a frame of empty comb or a sheet of foundation more brood is chilled than is gained by the spreading, and days of hatching brood (which means hundreds of bees) lost in this way. I can understand a comb containing larvæ and eggs from the outside of the brood-nest, being removed to the centre, but to part the brood by putting an empty comb in the centre when cold, frosty nights are frequent and adverse weather probably follows the operation, is to my mind courting disaster. As I have said, however, the brood-nest is by far best left undisturbed, so far as moving combs, if bees are to prosper. There is, however, a way of spreading the brood safely at all seasons, and that is by certain manipulations of the quilt and the feeder. As stated under "quilts" (page 74), I use a cover of jute carpeting, with a hole cut on one side for the purpose of feeding.

When winter is departing, bees will generally be found clustered on the frames, close to the side of the hive nearest the entrance. But whether this is so or not, on the first cursory glance into a hive, I twist the quilt so that the hole is brought as near as possible over the cluster, and a 2 lb. cake of soft candy is then placed above the hole. This done, breeding commences below almost immediately. If the weather is not suitable for syrup-feeding by the time the candy has been consumed, give another, but in no case move the quilt until commencing to give syrup food, say towards the end of March, and then for the first time carefully examine the bees to ascertain their condition, always replacing the frames in the same position as before. If the stock is strong, an additional frame of comb may be given next to those already in, as before mentioned. In replacing the quilt, arrange it so that the feed-hole comes on the opposite side of the brood-nest to that it lately occupied. Set on the feeder, and supply warm syrup. The effect of this is that while the brood-nest is left intact, the bees are constantly at the syrup-feeding, heat is generated in consequence in that direction, and the queen naturally spreads the nest herself in her desire to bring her offsprings towards the source of income. This is a most gradual process, causing no delay, no chilled brood, and no risk whatever either from cold snaps or night frosts, for the breadth of brood is never extended beyond the clustering capacity of the bees. This changing of the "feeding-place" should be repeated about every fourteen days, adding frames at the side as required until the hive has its full complement of frames, and the need for spreading brood is at an end. As an aid to building up strong colonies for the early honey flow, slow feeding plays a most important part, and, used in conjunction with the plan set forth above, small colonies can be nursed even in a cold, wet spring into fine condition before clover blooms.

But even simple operations must not be overdone, or what would otherwise be in every way beneficial may result in defeating the object in view. It is worse than useless feeding a hive already congested with honey, because queens without empty cells in which to deposit eggs are helpless and useless. One frame of empty comb should always be placed in the centre of a hive when packing down for the winter. If all followed this plan, complaints we now hear of would cease to exist. Where the brood-combs are found full of sealed food remove the comb next to the cluster of bees, and substitute a frame of empty comb (not foundation), and arrange the quilt so that the feed-hole comes right above the empty comb given, to induce the bees to occupy the empty frame—which they will speedily do. At the next shift carry operations on to the other side, but don't be tempted to touch the brood-nest. We are told to uncap an outside comb; it is safe, but there are objections, and the result is less favourable than if managed as above directed, helped by a slow feeder in the right place. If bees begin removing honey away from an outside comb, as in the "uncapping" plan, they never stop until all is carried to just the spot where it will occupy cells badly needed for brood rearing. I am fully alive to the fact that a stock rich in food will outpace one whose bees are poorly supplied, that is if the latter are left to fetch the food and uncap it as wanted; but that is an entirely different condition of things compared with combs—as I have seen it done—set running on each side of the bees. In the latter case the temptation to store it in the nest is too great, and the result becomes altogether unsatisfactory. In syrup-feeding care must be taken to make the supply slow and continuous. Feeding rapidly in fits and starts, does no good in the way of stimulating rapid brood-rearing.

Theoretically, the idea is that a regular

supply of food coming in daily leads the queen to believe that permanent sources of supply from without are available several weeks before spring flowers really begin to yield nectar. To make this delusion complete, the bees should only have access to a few holes from a bottle feeder, supplied with thin syrup, and replenished regularly just before the supply runs out. When natural income can be had, reduce the supply to one hole, but let the supply only equal the daily consumption; if more is wanted, the bees have the stores within the hive to fall back upon. In making syrup for spring food, I stir 4 lb. of cane sugar into half a gallon of boiling water, adding a little salt and a few drops of naphthol beta. Always replenish feeders in the evening, and regulate the supply to the required quantity per day you wish the bees to take down.

Artificial pollen need not be given if the natural supply meets all requirements. My own difficuly is to keep the bees from blocking their combs with it in the autumn, so that I always find an abundant supply for all purposes in the spring. In districts where the supply of natural pollen is either scarce or very late in coming in, flour-candy is the next best substitute; or pea-flour, sprinkled in an old skep, may be placed in a sunny corner of the garden.

As a word of caution, I would say, don't give syrup food in spring till pollen is coming in freely from natural sources. Prefer rather to rely entirely upon soft flour-candy. The end of March is quite time enough in most seasons and districts to commence stimulative feeding by the syrup-feeder. — *Thornton Heath.*

(To be continued).

A NOVEL BEE-SMOKER.

We have much pleasure in describing and illustrating a new smoker, invented by Mr. A. Zaeringer, of Waldulm, in the Grand Duchy of Baden, and shown by Mr. T. W. Cowan at the conversazione of the B.B.K.A., held on the 13th inst. The smoker is in every sense a portable one, and is adapted for various other purposes besides smoking the bees. By its use both hands are at liberty for manipulation, yet it is so arranged that at any moment a puff or two of smoke may be readily projected. The apparatus consists of a fire-chamber of maple wood and an indiarubber ball (fig. 1). By means of a toothed grip the smoker is fixed to the coat sleeve, as shown in illustration (fig. 2), in such a manner that the ball is situated under the palm of the hand, and in such a position that without any inconvenience the three last fingers can press on the ball, while the thumb and first finger are at liberty to manipulate the frame. If smoke is not required, the apparatus can be hung to a pocket. The chamber is filled with coarse tobacco, rotten wood, brown paper, or rags. These are easily lighted if the apparatus be inverted, a match applied, and the ball pressed a few times. The cover is then closed, and the smoker is ready for suspending to the coat sleeve. The interior

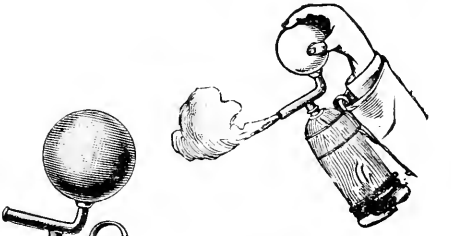


Fig. 2.

Fig. 1.

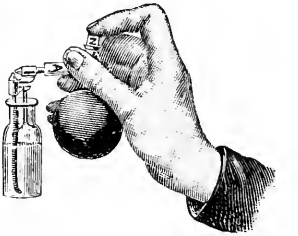


Fig. 3.

of the fire-chamber is lined with tin, so that the wooden bowl is not so liable to be burnt.

The most expensive parts of the apparatus are the ball and connecting tubes, and in order to utilise these for other purposes, they are made to take off. To use it as a liquid spray producer there is an adapter which is

Fig. 4.

placed in a small bottle of the liquid to be utilised in fig. 3.

In fig. 4 it will be seen how it is used in connection with dry powdered insecticide, which by its means is projected in a fine dust to a

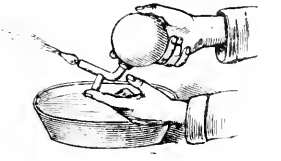


Fig. 5.

great distance. It can also be used as a syringe, as will be seen in fig. 5, and in this way a fine

jet can be projected to a distance of four or five yards.

The whole thing is well made, neat and solid, and is not expensive, the cost being about 3s. complete with all the accessories. We have had an opportunity of trying it, and have no doubt it will prove a useful portable smoker.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

[2444.] That "March comes in like a lion" was not fully exemplified, but ere the month was forty-eight hours old the roaring wind was scattering broadcast the pollen grains from bloom on lofty elms and trembling catkins of the slender willow. March also promises to replenish the water fountains; let is hope that its storms may be followed by the proverbial showers of April and flowers of May.

The colder period has — since my last "Notes"—retarded vegetation considerably, bringing things more into seasonable form. Readers must therefore not forget that this is the sowing time of the year, to insure a crop of the flowers that help to make a forage-ground for the bees later on. Messrs. Sutton, of Reading, have compiled a list of the best bee-flowers for bee-keepers' use. Therefore, any one in doubt should send for this list, which gives full particulars regarding every plant. By giving surplus plants to neighbours you will not only extend the bees' forage-ground, but create a friendly feeling towards the bees.

This being the opening month of the bee-year, orders should be promptly placed by those wanting appliances. I notice in advertisement pages discounts are offered on orders placed in March. Early orders also benefit the manufacturer by letting him know exactly what to construct, and buyers receive a better finished article at a lower price than in May, when the rush is on. The bee forage of the future is a subject that should occupy the attention of Associations and County Councils. The cry is—Keep Bees! Keep Bees!! But when we see our fields almost relapsing into waste uncultivated land, foul with couch grass, old layings of sainfoin being ploughed up and no new breadths of land laid down with this excellent hay-pasture as well as fine bee-plant, I wonder where the busy bee will procure her stores of food from in the near future? In our parks and pastures we have but a sprinkling of white clover, and, therefore, cannot hope for a large "take" if land is laid down to cloverless pasture. I have noticed that where there is most white clover plant there is least moss in the pasture, and if facts such as this be kept to the front it may induce more white clover seed to be used. Again, all observant people know how fond cattle of all kinds are of food in which white clover forms the bulk, be it on the roadside wastes or in the ancestral park. Another point to be borne in mind is the forage value of white clover when made into hay. Any stockman will tell you that the greater percentage of clover in the hay the better value as "fodder." These facts ought to have some bearing in arranging the practical tests of our agricultural trial farms, because if farmers and stock-breeders become interested in the value of honey-producing plants as forage for their cattle we shall insure a better return for the bee-keeper. We must endeavour to impress on the farmer the plea of the beggar, "Do thyself a service, sir." It is futile to expect that the farmer will ever consider the bee-keeper in his choice of plants for cultivation; but show him that the plants we value will bring grist to his mill, and naturally he will be ready enough to do himself a service.

Artificial pollen, *i.e*, pea-flour or wheat-flour, may be given in large apiaries where the normal supply is limited or scarce, but for small apiaries of two to six hives, the bees will collect enough for their wants from natural sources, and where artificial pollen is used, give only small quantities at one time, or the brood-combs may become pollen—clogged in some stocks to the curtailment of brood rearing.

The colonies requiring food now may have a cake of soft candy in which some pea-flour is incorporated. We now have the sun above the horizon for twelve hours, and if the weather continues stormy, a cake of flour candy will keep the bees steadily progressing, and the brood-nest gradually enlarging.

To those with foul brood in their apiaries I should commend Mr. Cowan's closing article the other week, on its treatment, and in addition, I would call attention to a series of experiments recently conducted by Mr. F. F. Westbrook at Marburg, on the germicidal properties of sunshine and air. Sunlight, with plenty of air surrounding germs, kills them speedily and effectually, sunlight *without* air does not kill them at all, while sun heat of average intensity when air is excluded forms germs, makes them multiply very much quicker than they would without it. Therefore, continues the *Journal of Pathology and Bacteriology*, the whole series of experiments afford beautiful confirmation of conclusions long empirically established, namely, that sunlight and abundance of fresh air, are the most

efficient preventives of all forms of bacillary and zymotic disease which science has yet discovered.—W. WOODLEY, *Beedon, Newbury.*

LARGE *VERSUS* SMALL HIVES.

[2445.] One of your subscribers has sent me the BRITISH BEE JOURNAL of January 9, in which you say, p. 11, that our predilection for large hives, as explained in the American *Bee Journal*, "may arise from the fact of Mr. Dadant, senior, having acquired his early bee-experiences in France, and to the general use of large hives on the Continent."

When I came to U.S.A. in 1863 I had never seen any but small hives. M. Hamet, founder and publisher of the *Journal l'Apiculture*, wrote, in his "*Cours pratique d'Apiculture*" (third edition, 1866, p. 24), that the number of eggs laid by a queen-bee is habitually from 40,000 to 100,000 in a year; while it is easy to prove that very often the laying exceeds 100,000 in a month.

Another French bee-keeper, M. Collin—who was an authority for M. Hamet, having borrowed from him a great many quotations for his book—wrote, in his "Guide de l'Apiculture," 1865, that a mother-bee, in a strong colony, does not lay more than 600 eggs per day; while Langstroth, in the second edition of his book, published eight years before, put the number as 2,000 to 3,000 per day!

Such erroneous teachings can be easily explained by the small capacity of the hives used by these gentlemen, which did not exceed 25 to 27 litres (quarts).

I had never considered the size of hives before coming to this country. It was by visiting several apiaries in which were different sized hives, that I began to notice the superiority of large combs and large hives. Then I experimented for years on the following three sizes:—

The "Langstroth" hive, with ten frames, 17⅜ by 9⅛.

The "American" hive, with twelve frames, 12⅝ by 12⅝.

The "Quinby" hive, with ten frames, 19½ by 11.

These experiments were not made on a few hives only, but on about thirty of each kind in the same apiary, and lasted more than twenty-five years.

As I had never, in France, seen combs where the width exceeded the height, my preference, at first, was for the American square frame hive; but the comparative results were in favour of the ten frame "Quinby." The "Langstroth," being less capacious, was back of both. Yet, as long as we imported and raised Italian bees, we could not dispense with "Langstroth" hives, for nearly all the orders sent us for hives were for the "Langstroth."

At last, about four years ago, while in the same apiary, our "Quinby" hives gave us some surplus, and all, or nearly all, had a good supply for winter, not only none of our thirty "Langstroths" had given any surplus, but nearly all were short of stores. We therefore resolved to transfer them in larger hives, and we have now these empty "Langstroth" hives rotting in a corner of our yard.

Not only I did not learn to prefer large hives and combs while I lived in France, but having ascertained here how much these hives were preferable to small ones, I began, twenty-seven years ago, to write on this topic in the French bee papers, and my writings were rudely rebuked by M. Hamet. Yet, I succeeded in persuading a number of bee-keepers, not only in France, but also in Switzerland, in Italy, in Belgium, and even in Russia, where our book, "Langstroth Revised," was translated by M. Kandratieff.

Now, let me say that I was greatly surprised when I saw that the "Langstroth" frame had been reckoned too large for England; that the English standard frame was but 14 by 8½ in., and that the number of frames in a hive was but eight and a division board. In such a small hive, if you deduct two combs for brood, the queen has a space to lay but 1,700 eggs per day, while she is able to lay twice this number and more.

Of course, you may double the capacity by piling two hives upon one another, but the small size of your frames and the interval between the two stories interfere with the laying of the queen. I have noticed that when a queen lays in small combs she drops a quantity of eggs which are lost, on account of the time necessary to hunt for empty cells, when she passes from one comb to another; and such loss of eggs is probably the cause why the English bee-keepers thought that the English queen bees were not so prolific as the queens of the Continent. M. Collin, the bee-keeper quoted above, was persuaded that queens were unable to lay 600 eggs per day because he used small hives.

Furthermore, Doolittle here, who uses the "Gallup" hives, with nine frames 11¼ by 11½, says in his pamphlet:—I use that hive to obtain a strong population for June 10, —time of the honey-crop. He commenced to stimulate brood-raising about May 1, by introducing a comb containing honey, or an empty comb, between the brood combs every week till June 10.

With our large combs and large hives such work is not necessary. The ascertaining, twice a month, that our bees are not short of stores is sufficient. Then, about May 25, or two weeks before those of Doolittle, our colonies are strong enough to work in the surplus boxes.

Besides, while Doolittle tries every day to prevent natural swarming, we let our bees alone; for the number of our natural swarms does not exceed two or three per cent. of the number of our colonies.

We prefer artificial to natural swarming, for we can raise them from our best queens, and thus improve the race of our bees.

If there are in England some bee-keepers who have tried large frames and large hives in comparison with the small English "Standard," I would be glad to know the results they have obtained.—CHAS. DADANT, *Hamilton, Illinois, U.S.A., February* 29.

NOTANDA ET INQUIRENDA.

CLEARING SHALLOW-FRAME SUPERS.

[2446.] I have to thank several writers in the B.B.J. for kind answers, hints, or references, in response to inquiries of mine. I see all these and carefully note, consider, and weigh them; but it is impossible to refer to them each more particularly. I hope the authors will kindly accept this general expression of my gratefulness.

Clearing Shallow-frame Supers.—I now ask for any really practical advice under the following circumstances: I shall be working a Wells' hive, and three or four single hives this coming season, with shallow combs for extracting. But the frames rest *directly* upon the super cases, there being no inner case; and I last summer found the greatest difficulty in lifting them, owing to brace combs and propolisation, at which my bees are adepts.

In the case of the Wells' hive, the long supers of sixteen widespread shallow-frames are all in one; and the difficulty of lifting the enormous weight, each filled comb weighing from 5 to 7 lb. (making at least 90 lb. in all), and of keeping down the infuriated bees from the two stocks by carbolised cloths deftly inserted underneath, is very great. In fact, it was a very unpleasant business, especially as I only could command the help of a lad, and who very naturally did not like the job, when three would not have been too many.

As all the lifts have plinths, the difficulty is aggravated, since it is not easy to insert a wire, for instance, to make sure of easy separation beforehand. In one case when, after ineffectual attempts, renewed in various forms on several days, to lift a super from a single hive, it at last came up on the employment, as a final and desperate resort, of great force. It brought with it several of the combs from a lower storey, and a cloud of bees in a particularly fine frenzy. However, that was a detail to which we became accustomed and hardened.

I have tried sending the bees down, and taking out the combs one by one, but I cannot succeed. Smoke is absolutely useless; or, rather, converts a fairly quiet hive into a horde of raging demons, who wait for hours to have another "go" at you, and attack you anywhere near for weeks afterwards. With the carbolised cloth I cannot send them down far enough to be of any use—they still pour out on lifting the super off the next.

Of course, if I were beginning again, I should have another style of hive. I should be afraid to try and do without plinths to my lifts, as, at any rate when they were empty, I should fear the supers blowing off, or getting moved by some accidental push, with dire results. Besides, exposed to sea gales as we are, rain would certainly beat in at the exposed flat-joints.

So it is not easy to see what to do; and, although I am looking forward to a grand harvest this year, I am not anticipating the taking of it with any particular pleasure. There must be some way out of the trouble; and I shall be grateful to any one who can help me to find it, as find it I must, with help or without it. Only, sometimes, a mere hint sets one on the right track for an easy solution forthwith. So I shall await replies with interest.—SELF TAUGHT, *March* 14, 1896.

BEE NOTES FROM SUSSEX.

[2447.] I suppose the feature of this opening season of 1896 is the almost uninterrupted continuance since Christmas last of mild weather and dull, grey, leaden skies. Looking back over nearly half a century, I can remember nothing like the present persistent lack of sunshine.

With us, the hedges are just showing green, and the genial influences of spring are generally beginning to be felt. Fruitbuds are only awaiting a little warm sunshine to burst into flower; and I to-day saw an almond tree which I was told had been several days in full blossom. But I cannot call these things very forward. The arabis is only just showing white; wallflowers and stocks are hanging fire; daffodils have now taken the place of the crocuses; hyacinths and tulips, narcissus and anemones, are coming on fast; the palm is out: but yet everything seems to be holding back.

Whenever the bees can get out, as they have at last done for a few days, they have a good time; but I notice they have hitherto taken very little water. One thing puzzles me. They appear very fond of diving down into the roots of the grass, and also seem to pick up something from gravel paths right down in the small dust between the stones. What are they really doing in both these cases? One would need a sort of telescope-microscope to make sure of their proceedings.

Also, just at this time, a series of single or multiple combats seem to go on all along the floor-boards. Sometimes one, sometimes several bees, will all set upon one unfortunate specimen, and after an excited affray and an immense amount of pulling and hauling, a whole knot of bees, or sometimes only two, will fall in a lump on the grass in front of the sloping alighting board. Sometimes, the victim is apparently either killed or badly mauled. Sometimes, after awhile, he cheerfully gets up and returns calmly to the hive as if nothing had happened. There is generally a grand struggle between the combatants, while sprawling on the grass, to get free of one another. I am satisfied the bees set upon

are not always robbers. Again, what is the real explanation?

The cold spell at the end of February, when for several nights the *minimum* thermometer readings were from 24 to 28 degrees Fahrenheit, cost me a weak stock. But here I believe a very curious thing has happened. On March 6, I noticed how poor this stock, No. 4, had become; and upon opening the hive at the first opportunity on March 9, I found perhaps twenty dead bees on combs or floor-board, certainly not more; and there were a few more on the grass in front of the hive. They were well supplied with stores of honey and pollen. The puzzle was: What had become of the bees?

Well, my notes show me that on February 6 this was a strongish stock. On February 9 I noticed a great and sudden decrease in their numbers. On the same day my notes tell me I remarked an unaccountable increase in the bees of another weak stock, No. 8, which I then attributed to brood hatching out, although this considerably mystified me. I now incline to the belief that the bees from No. 4 somehow amalgamated with No. 8. Those bees previously were barely covering four frames, out of six which they had. I have now given them four more, and they to-day were easily covering eight out of the ten. Again, if any one can throw light on the subject I shall be glad, as this seems a startling instance of spontaneous and successful self-uniting. I am not sure another stock is not doing, or about to do, something of the same kind.

All my other stocks are strong, hearty, and only too active; but I doubt whether such a very mild winter as we are having is a good preparation for a successful after season. —W. R. N., *Sussex, March* 16, 1896.

BEE-ESCAPES FOR WINDOWS.

[2448.] In Bee Journal for March 12, p. 104, under the heading of "The Porter Spring Escape for Honey-Room Windows," your correspondent gives a ready means of clearing extracting houses; but, although very good to read, it might, I fear, be misleading to beginners in bee-keeping. Experience has taught me that although it seems wise to let bees out, it is not always expedient to do so, as the very fact of letting them out encourages more to seek re-entry, bringing a friend or two with them; to say nothing about the difficulty of manipulating the hives and walking about outside the bee-house.—A. Rowntree, *Old Malton, Yorks.*

[We confess ourselves unable to quite agree with our correspondent so far as there being anything "misleading" in Messrs. Porter's description of their application of the bee-escape to honey-room or bee-houses. If the bee-keeper cannot prevent bees entering from the outside, it is surely preferable to offer a means of escape to the intruders than keep them prisoners, wearing out their lives in trying to escape through the glass.—Eds.]

Queries and Replies.

[1436.] *Compelling Removal of Bees by Law.*—Can you kindly tell me if there is any law which would prevent me keeping bees in a garden, the position of the bees being about 65 ft. from a public path, and separated from the path by a high wall, and distant about 70 ft. from the nearest house? Can any one compel their removal from such a position?—Old Subscriber, *London.*

Reply.—There is no law to compel removal of bees unless they are proved to be a source of danger and a public nuisance. Nor can any one prevent a person from keeping bees in his garden, though an action might be taken for compensation for loss or damage if such could be proved. In which case the bee-keeper would be dealt with by a County Court judge. Referring to the location named above, there would be no risk whatever unless the bees were grossly mismanaged.

[1437.] *Removing Bees.*—I have three stocks of bees in frame-hives. Two were made up with bees driven last autumn, and put on wired foundation and fed; the other was a swarm of last June, and was not put on wired foundation. At present they all have plenty of stores, and seem to be doing very well, and are quite busy bringing in pollen. What I should like your advice on is, I am removing in June to a house about twelve miles away; had I better remove the bees at once, which would be rather awkward, and there would be no one to look after them there? or should I be able to remove them when I leave in June? and whar is the best way of removing them in either case? — H. G. E., *Hampton-in-Arden, March* 16.

Reply.—If at all convenient, the bees should be moved now, and if you have the "Guide Book" or "Modern Bee-keeping," reference to either will give you full instructions for removing. If not, we will be glad to hear from you after deciding as to time, when we will write you again.

[1438.] 1. Can you inform me to what extent English County Councils have given grants in aid of bee-keeping, and the amount of aid? I ask this for comparison with Scottish Councils. 2. Do you know if an attempt has been made to collect references to the bees and bee-keeping in general literature, and is there a recent complete list of works on the subject? —Fifeness.

Reply.—1. Reference to back numbers of B.B.J. will afford very full particulars of what has been done in the direction named. The Secretary of the British Bee-keepers' Association, 12, Hanover-square, London, W., would, no doubt, if applied to, furnish information as to what has been done by County Councils in aid of bee-keeping. 2. None that we know of.

BEES.

(*Concluded from page* 110.)

Regarding bees, however, it is evident that the Romans of that age had outgrown Aristotle's information. In fact, the directions for bee-keeping laid down by the invaluable Columella were the best guide for bee-keeping until this century. All those of the Middle Ages, and they were many, took his rules for a foundation without change—but so it was, for that matter, in all other branches of rustic economy. But in one respect Columella's system was not applied until a very recent day. The Romans did not kill their bees when rifling the hive, and therefore they left honey enough for the survivors to feed upon. Perhaps the secret of the stifling mixture was lost. Of course some very old notions remained; are there not plenty still at the end of the nineteenth century? People continued to believe, like the Jews, that a putrid carcase might generate a swarm, and they fancied that in stormy weather bees attach a little stone to their legs somehow in order to keep their balance.

We remember once to have heard a learned gentleman recount, in public, a most striking example of instinct—his learning had not been collected in the domain of natural history. He told how the early colonists of Brazil carried bees with them, which, the first year, made an astonishing quantity of honey, the second not so much, the third only a little, and the fourth none at all. The intelligent creatures had discovered that flowers bloom all the year round in those parts, and so they resolved to live up to their income, not troubling to save. If anybody in the room knew better, he had the wit to hold his tongue—too much amused, perhaps, to spoil such an excellent joke. Flowers do not bloom all the year round in Brazil, or anywhere else—unless, perhaps, in the South Sea Islands; and no country has more bees, or more industrious, than Brazil. The European species abounds, and there are eighteen native varieties besides; so many have been identified and named, but probably there are others. They all make honey in profusion, though one species is but two lines in length, and another may be mistaken for a housefly. But the quality is eccentric sometimes. One sort is intolerably bitter, another acid, a third turns to the likeness of lemon juice after standing for an hour; several are more or less poisonous. Schoolboys recollect how the Ten Thousand suffered in Colchis from eating honey. Xenophon's account is verified by travellers at the present day. Many an army has been routed by bees at some critical moment; the operations even of British troops have been gravely embarrassed. General Sir Hope Grant recounts such an incident in the assault upon the Abum Bagh at Cawnpore. Lieutenant Evans, of the 9th Lancers, who led the attack, thrust his spear through a bees' nest as they traversed a belt of timber. An avenging swarm sallied out, and the regiment bolted like one man. Others could not see what had happened—struck with panic, the whole advance guard of cavalry turned and fled. Colonel Hope commanding the main body deployed in haste, amid terrible confusion. It soon ended in laughter, but an officer of artillery was very nearly stung to death. Lady Dufferin merrily describes a panic in the church at Simla. Sermon had just begun when the Viceregal carriages started off at a gallop, and the body-guard clattering after. Whilst the ladies looked at one another in alarm, a word was passed from the door and all the gentlemen sprang to their feet. Terrifying enough for strangers! But it was only an irruption of bees, against which every window and crevice had to be closed. The Viceregal party had a long walk nevertheless.—*Standard.*

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

New Beginner (Ballabont, I. O. M.).—*Increasing Stocks.*—We should not advise other than very moderate increase for a beginner. Allow the stocks to swarm naturally, and hive the swarm on the old stand; then divide the combs and brood of the parent hive equally in two portions, with a good queen-cell or two in each. You will thus make six colonies from the two now on hand, and probably get some surplus honey from the swarms.

Yorkshireman (Sheffield).—*Moving Bees*—We should think the least troublesome way of moving so short a distance of one and a half miles would be to get a couple of men to carry three hives at a time on a hand-barrow. By this plan, and doing it after dark on a cool evening, no packing to speak of would be needed, and probably the entrances might be left open. This would be less risky than jolting the hives in a cart or waggon.

L. K. (Wicklow).—Comb is affected with foul brood, but the disease seems to be only just breaking out. It thus would appear a hopeful case for treatment. It is evidently from a heather district.

C. W. Evans (Carshalton).—Comb contains nothing worse than mouldy pollen. Such combs are of little use for extracting purposes. Don't give pea-flour when natural pollen is plentiful.

A. H. (Crewe).—Sample of honey described as "Finest Cotswold" is fermenting, and altogether out of condition. It is quite unfit for table use.

C. Toms (Wilmington).—*Sealed Queen-cell in March.*—The queen has evidently been lost or deposed, and the cell now formed will be useless. Unite bees to the next colony.

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION.

CONVERSAZIONE.

(*Continued from page* 113.)

At six o'clock the company reassembled. Mr. Henry Jonas having been voted to the chair, presided, and was supported by the Hon. and Rev. Henry Bligh, Revs. G. W. Bancks, W. E. Burkitt, W. Handcock, and F. T. Scott, Mrs. G. W. Bancks, Mrs. T. W. Cowan, Miss Dawe, Miss M. L. Gayton, Miss A. J. Tate, Major Fair, Messrs. R. T. Andrews, Sannyer Atkin, H. W. Brice, S. J. Baldwin, T. Bevan, T. Baines, T. W. Cowan, W. B. Carr, J. S. Greenhill, J. M. Hooker, W. H. Harris, E. Hancox, H. Ashdown-Jones, Jas. Lee, R. Lee, W. P. Meadows, J. W. Sheppard, Leonard H. Smith, E. D. Till, E. H. Taylor, W. Woodley, E. Waebar, W. B. Webster, E. H. Young, &c.

After the Chairman had briefly opened the procedings,

Mr. Till called attention to the Bee-census of the County of Essex, obtained by Mr. T. I. Weston, particulars of which appear in BEE JOURNAL of January 23 (p. 35). The details there given were well worth studying as affording help to those willing to work in the same direction, which work he thought would be of great advantage to county associations and to bee-keeping generally. A similar step had been taken in Kent, where a census of forty parishes had been made, and an average struck for the purpose of ascertaining approximately the number of bee-keepers in the county. The B.B.K.A. had for years urged the importance of securing such statistics, and there was no reason why other counties should not proceed on the same lines.

Mr. Cowan said Mr. Weston's statistics would be useful to the Parent Association, especially in regard to the proposed legislation. They tended to show that the estimate already formed of the bee-keeping industry was much lower than was actually the case, and that information, he thought, should be conveyed to the proper authorities.

The Chairman then invited remarks from those present who had kindly brought with them interesting objects connected with bee-keeping to submit to the meeting, and in response Mr. Baines submitted a model of a square bottle of glass intended for holding comb-honey as cut from a 1-lb. section. Beyond a slight projecting lip on top edge for securing the cover of vegetable parchment, the bottle has no "shoulder," so that the piece of comb drops in, and completely fills the space within. The designer claimed for it several advantages, among them safety in transit; perfect freedom from leakage or stickiness in the hands of users; utilising partly-finished sections by inserting two pieces in one bottle; using woodwork of sections a second or third time over, &c. In answer to enquiries, it was stated that the bottle was about to be put on the market by a firm of glass-blowers at the probable cost of 18s. per gross. After considerable discussion *pro* and *con.*, it appeared that, in the opinion of the meeting, the value, or otherwise, of the bottle as a bee-appliance could only be appraised after trial of it.

Mr. Cowan then exhibited several specimens of comb foundation, each of which he described minutely. There were samples on cardboard and on very thin zinc, also one entirely of wax, with cell-walls nearly ½ in. high, and another specimen with cells of full depth. These latter had been practically tried by bee-keepers in Germany, and favourably spoken of, but these sheets are only made in sizes to suit the German frames, which did not exceed 12 in. by 9 in. The machine used could not make them any larger, so these would not do for English frames. He did not think there was any advantage in having either cardboard or zinc as a base for foundation, but thought that with high cell-walls was certainly worth trying.

Mr. W. B. Webster had tried zinc as a base for foundation, but the bees refused to work it out.

Mr. Cowan also showed some very fine samples of foundation and plain wax sheets, made by a new method, observing that he had never before seen sheets of foundation superior to those now shown. They were made in America by a new machine and process of manufacture invented by Mr. Weed. We should probably ere long be more fully informed as to the method of production, but he understood that dipping was dispensed with, and the wax-sheets produced in long lengths before being impressed with the cell foundations. He had a letter from Mr. Otto Schultz, of Germany, from which it appeared that the ordinary foundation with shallow walls was made in endless lengths, and possibly the method employed there was similar to the American plan.

Mr. Baldwin said he had just made a trip to America, and was not particularly impressed with the "Weed" foundation. The way in which the sheets were turned out was an improvement; they were wound out on to rollers like paper. His experience was that the quality of the wax used in making the foundation was the essential thing. A few years ago foundation had been produced with a wooden base, but unfortunately bees refused to work it out properly. He (Mr. Baldwin) had tried experiments, using muslin, calico, and other things as a base for foundation, but the bees generally gnawed away the materials used—other than wax—and dropped them on floorboard.

An animated conversation followed, tending to show that the various substances used as an artificial base or midrib for comb foundation

were practically failures. The discussion subsequently turned on the point of using adulterants in foundation making, several gentlemen taking part therein, and all condemned in strong terms the using of any wax other than that produced by the bees themselves.

Mr. Cowan next exhibited some specimens of honey sent to him from Australia by Mr. Pender. There had been much talk lately of honey coming from this colony, but he thought of the specimens on the table there was only one that would have any chance of competing with English honey, and that was the one ticketed "clover honey," which had a pleasant flavour. All the others were too strong for the English palate. The different honeys were from—*Ridge box*, yielding about 80 lb. per hive during the honey flow; *yellow box*, from 100 lb. to 400 lb. per hive; *white box*, 80 lb.; *coastal honey*, 80 lb.; *clover honey*, 60 lb.; *eucalyptus*, 60 lb. to 120 lb.; *box and apple trees* yield about 60 lb.

He also showed a specimen of honey collected by the Australian native bees, a swarm of which he had produced for inspection at the conversazione in October last. Those bees, the audience would be glad to hear, were still alive, and would have been brought to the meeting if the weather had been milder. He hoped, however, to exhibit them at the next conversazione. He then showed specimens of Australian wax, both light and dark, and also a piece made by the native bees; the former was sold at about 9d. to 10½d. per lb., but the latter was valueless. The honey sold in Australia at from 3d. to 4d. per lb. As would be seen by B.J. last week, a ton of honey from Victoria had been sent over here, but at a considerable loss, the producer receiving, after all expenses had been paid, slightly less than a halfpenny per lb., whilst if he had kept it in Australia he would have realised 3d. per lb.

The samples were passed round for the inspection of the audience.

Mr. Jas. Lee then exhibited a hive of his own construction, in which he said there was no specially new design, except that it dispensed with plinths. As made, water coming in contact with the outside ran off freely, as it did not always do with plinths. Its divisions or chambers were perfectly square, in order that frames might be hung parallel or at right angles to entrance. The specialty was—as seen by the small parcel shown—that the hive was made in the flat, and could be sent thus by parcels post, and afterwards easily put together without the use of nails. It weighed about 7 lb. in the flat, and the cost was 12s. 6d.

A general conversation ensued on the merits of the hive; Mr. Carr said he thought there was considerable ingenuity in the construction of the hive, which would no doubt make it a favourite with amateurs, who delighted in building up their own hives at home, while dispensing with the chief labour of joinering.

Mr. Scattergood said he had carried one of these hives 300 miles on a lecturing tour, and had many times taken it to pieces and put it together again. The only doubt in his mind was whether it would be manageable in the hands of novices, though if Mr. Lee took the same trouble to instruct them as he had done him (Mr. Scattergood) he did not think there would be much to fear on that ground. In answer to a question, Mr. Lee said he intended to have directions printed regarding the hive which he had constructed in response to a question asked in the B.B.J. some two or three years ago—namely, as to whether there was a hive of that kind in the market.

In further discussing the merits of the hive under notice, several gentlemen present expressed their opinions as to the value or otherwise of dispensing with plinths, and, as bearing upon the subject, Mr. Carr—by request—showed specimens of an effective method of rendering plinths watertight by covering the joint well with paint, and sprinkling it thickly with sand while wet.

Mr. Meadows next exhibited a swarm-catcher, which he said was a combined adaptation of the "Alley" trap and "Porter escape." By means of flat, delicate spring wire, similar to that used in the bee-escape, the bees could freely enter the hive without hindrance or damage to their load, their exit being amply provided for by the excluder zinc. Nothing could possibly get out of order, as might occur with hinged entrances. In the event of swarming the queen could enter the upper compartment, which might be fitted with frames of worked-out combs, or with "starters" of foundation. As shown, it was arranged for two frames, but could, at a slight extra cost, have any number. A separate entrance was provided for, so that the bees of the swarm might establish themselves and work quite independent of the parent stock or hive.

The merits of Mr. Meadows' contrivance were freely discussed conversationally by Messrs. Cowan, Scattergood, Webster, Brice, and others, the general opinion being that the difficulty of these hivers arose from the springs or hinge-plates becoming blocked, or in various ways getting out of order when in use, and so either preventing free ingress to the incoming bee or allowing the queen to escape in the act of swarming.

Mr. Cowan then begged to be excused for introducing a little novelty "made in Germany," which one instrument answered as a portable hand-smoker, a spray or powder distributor, and in fact all sorts of purposes. It could be taken to pieces, and was most ingeniously made and fitted. The sprayer would eject water 3 yards, and was useful for spraying combs. When employed as a smoker, there was a little arrangement by which it could be fitted on to the coat sleeve, leaving

both hands free for manipulations. The price was about 3s. 6d.

Mr. Cowan then gave a practical illustration of the working of the instrument in its various forms.

A general conversation ensued on the value of the exhibit, in which many of those present took part, and on being passed round for inspection, it was generally admitted that the little machine was admirably made, and a model of ingenuity.

Mr. Taylor showed a cone-escape for hive roofs, fitted with springs like the Porter bee-escape. In the ordinary cone-escape it was found that the bees gradually accustomed themselves to pass in or out after a short time, a state of things which the escape shown prevented. He also exhibited a new form of honey jar made with a rounded edge, and fitted with a tin lid which, on pressure, would spring on and hold the contents quite secure. The bottle was perhaps not quite so good for show purposes as a taller one, although it was far better for table use, being handier for the spoon, which often became bent in the extraction of hard honey from deep jars. The jar was perfectly water-tight. The speaker next produced a swarm-catcher, which in some measure resembled that of Mr. Hole, but containing, as he thought, an improvement on the latter, so far as remedying the defect in the hinge-plates failing to act. The springs were on the "Porter" plan, fixed in small passage-ways of corrugated iron. The swarm-box as seen was fitted with six standard frames.

Mr. Cowan said there seemed to be some confusion in talking about the "Porter" springs. The principle of the "Porter" bee-escape was to have a shallow and wide tunnel just deep enough for a bee to pass, and two slight springs nearly meeting at the free end, and just sufficiently flexible to allow a bee to pass out but not to enter.

Those were the ordinary springs, but those exhibited could not be properly called "Porter" springs. The objection was that, in a cone, the bees would push the spring aside and walk in. With regard to the swarm-catcher before them, he thought the corrugated iron tunnels an improvement, as the bees must pass the springs singly, and were prevented from pushing the springs aside.

After a few remarks from Messrs. Hooker, Taylor, and Carr,

Mr. Cowan showed a number of lantern slides, which had been prepared by Dr. Percy Sharp, and sent by that gentleman for exhibition. He would lay them on the table for the inspection of the company.

The Rev. Mr. Bancks then exhibited some samples of honey vinegar, which were passed round for examination. He thought the production of this vinegar might be turned to account in the interests of bee-keeping, especially as he considered that as regarded flavour and aroma honey vinegar was superior to the general vinegar of commerce. The process of making the vinegar before them was extremely simple, and he thought every bee-keeper should be recommended to try it. If a demand could be obtained for that vinegar the bee-keeping industry would be greatly advanced.

The Chairman said he had been indebted to Mr. Bancks for a sample of his honey vinegar, and since using it he could touch no other, as it was of a singularly mild and refined taste, and free from acid properties.

After having spent a very enjoyable time inspecting and discussing the merits and demerits of the interesting exhibits shown, Mr. Cowan moved a vote of thanks to the Chairman, and took the opportunity of informing the meeting that the proposed Bill with regard to foul brood was in a forward state, being then in the hands of the Parliamentary draftsman, preparatory to being laid before the County Councils' Association Parliamentary Committee. He was also glad to say that Lord Thring, the Chairman, took a great interest in the matter.

He (Mr. Cowan) desired to impress on all those present, as well as those not present, that they should use every means in their power to bring the matter before the members of Parliament for their boroughs and counties, and urge upon them the necessity of the Bill being passed. The Council of the B.B.K.A. would do all in its power, and they hoped that every bee-keeper would exert his individual influence to ventilate the subject, and talk about it to County Councilmen, and, if possible, members of Parliament; so that those in whose hands the power lay might know something of the matter, and the importance of it. Out of the 670 members of Parliament a large number had never heard of foul brood, and many knew nothing of bees; and the same might almost be said of County Councillors. In conclusion, he said that the services of Mr. Jonas were highly appreciated by the members of the Association as a most able Chairman of the Finance Committee, upon whose energy and labours the success of the Association was obviously in a large measure dependent.

Mr. Brice seconded Mr. Cowan's motion, which was carried. The Chairman, in briefly acknowledging the motion, desired, in the name of those present, to express his thanks to the gentlemen who had taken the trouble to bring their exhibits to the meeting.

The proceedings then closed.

MIDDLESEX B.K.A.

At the annual meeting of above Association, (reported on p. 102), the following members were winners of prizes in the drawing that took place at its conclusion, viz.:—First prize (frame hive), Mrs. Todd, Finchley; Mrs. Freeman, Halliford, and Mr. Marlow, Teddington, each

a rack of sections; Mrs. Pawle, Harrow, Mr. Burrows, Southgate, Mr. Pollock, Hanworth, and Mr. Bridger, Hampton, each a bee-feeder; Mr. Curtis, Hanworth, and Mr. Jonas, London, each 100 sections; Mrs. Chowne, Shepperton, Mr. Jonas, London, Mr. Channon, Shepperton, Mrs. Priest, Hillingdon, and Major Fair, Teddington, each a parcel of comb-foundation.

The names of Messrs. Botton and Savory were incorrectly reported as re-elected on the committee, these gentlemen having resigned.—*Communicated.*

LANARKSHIRE B.K.A.

ANNUAL MEETING.

The annual general meeting of the Lanarkshire Bee-Keepers' Association was held in the Clydesdale Hotel on Saturday, the 21st inst., Mr. M'Callum, Hamilton, in the chair. The following officials were appointed for the ensuing year:—Hon. Pres., James Hozier, Esq., M.P.; Pres., George T. Gordon, Esq., Tollcross; Vice-Pres., William Brown, Esq., Larkhall; Hon. Sec., John Stevenson, Merryton Braes, Larkhall; Assistant Sec., John Shaughnessy, Bellevue, Rutherglen.

A general committee was also appointed for the season. Rutherglen and Cambuslang were both proposed for the annual honey show, but, on being put to the vote, Rutherglen was carried by a large majority, so that the show will next year be held in the "Royal Burgh."

After a general discussion on matters more or less interesting to bee-keepers, a hearty vote of thanks to the chairman for presiding so ably in the chair brought a very enthusiastic meeting to an end.—J. STEVENSON, *Hon. Sec.*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

REMOVING SHALLOW-FRAME SUPERS.

[2449.] Your correspondent, "Self Taught," (2446, p. 118) who has asked for help or advice from any one about taking off boxes of shallow frames, does not say whether he uses excluder zinc or not. I take it that he does not, because of his describing how the frames were stuck to those of brood-nest and his trouble arising from lifting some of the latter up when removing the surplus honey. Well, I should say by all means use excluder zinc over frames of the stock hive in future; also see that the spaces between side-bars of frames and the hive sides are not more than a regular bee-space, $\frac{1}{4}$ in. or $\frac{5}{16}$ in. This done I think he would not be troubled with brace-combs. In tiering up, also, over the top of every box of combs, before adding another above, I almost invariably place one of the old excluders that I discarded years ago (about 12 in. wide). This narrow width leaves about an inch at each end of the frames, so that without interfering much with free passage-way, the zinc keeps the bees from joining the bottom of one set of frames to the top of the other. As regards plinths, I do not use them, my boxes fitting square on top of each other. Now about "Self Taught's" experience with the Wells hive; certainly it would be too heavy for one man to lift off bodily, and as I seldom have any help I just get my smoker and give the bees a few puffs after uncovering them at the top, lift a frame out, and with a sharp jerk throw most of the bees on the large flight-board in front, when they soon run in. After removing two or three frames, if honey is still coming in, I substitute empty combs, just laying a piece of strainer canvas on top of bees while covering up the full combs in a box for removal indoors, after abstracting as many combs from super as are ready. I do not know what kind of material "Self Taught" uses in his smoker that is "absolutely useless, or rather converts a fairly quiet hive into a horde of raging demons," but for myself I have found that old corduroy steeped in a weak solution of saltpetre, and then allowed to dry, rolled up and well alight when using will always give a volume of smoke, that without hurting or irritating the bees, will make them move on double quick; or as friend Sells used to say when I drove in the competitions years ago, "Walton has put their slippers on." A little caution is, however, necessary. Don't give so much smoke as to make the bees "boil over," as I call it. Last year I removed many boxes of shallow-frames clearing the bees out with the bee-escape, but some boxes worked with Standard size frames were, I thought, got off quicker by lifting them out one by one and shaking bees off as above, especially if I wanted to get some honey off at dinner-time, when a lot of the bees are out at work.—JOHN WALTON, *Honey Cott, Weston, Leamington, March* 21.

REMOVING SURPLUS HONEY.

DIFFICULTIES WITH SHALLOW-FRAME SUPERS.

[2450.] In reply to "Self Taught" (2446, p. 118) I find the best way of removing lifts from single-wall hives in which shallow-frames are resting direct on the lift is as follows:—Let the plinths be screwed on, not nailed. These can then be taken off, and a wire passed between the brood chamber and lift to loosen

the combs; then have ready a round stick, about as thick as little finger, 3 in. longer than the width of brood-chamber. On this roll a cloth of unbleached calico, 1 in. less than stick in width, but 2 in. or 3 in. longer than the length of brood-chamber. Having got all the shallow-frames detached by the wire, lift the back of crate with one hand, and insert the roll of cloth under, and pass it along the top of brood frames, unrolling it as it goes, until about three-quarters over, then replace the crate on the cloth and proceed with the other end of crate, when the whole of the brood frames will be covered over. The crate can then be removed with the least disturbance to the bees. A few will fly, but if done quickly these will not be troublesome. The crate should not be uncovered until the cloth has been rolled over the under frames. To remove the bees in crate, either use a Porter escape fixed in a board and placed on the brood frames, removing the cloth, of course, and replacing the crate; or let the cloth remain with crate on top and fix a cone escape in roof, uncover the crate and replace the roof, leaving all quiet for a few hours.—J. H. N., *Watford, March* 20.

[2451.] After reading "Self-Taught's" letter of the 14th inst. twice, I laid down my B.B.J., fully concurring with him that "it is not easy to see what to do," unless he decides to alter his supers. It was a great mistake to make or buy supers which did not allow the proper bee space under the frames. Personally I would prefer making new supers, rather than work under such an inconvenience again. But if he does not care to go to this expense, why not try rubbing vaseline on the bottom bars of the frames? This would prevent both propolisation and brace-combs.

I can quite understand the frenzy of the bees, after a super had been removed, by the application of great force, and more so when it was accompanied by several combs from the body box. When removing supers the operator's motto should be "gently does it."

I often find the carbolised cloth effective when the smoker seems only to irritate the bees.

I am working three Wells hives this season of a pattern I have adopted after two seasons' trial. Supers and everything fit well and work smoothly. I can remove them with the greatest ease. I hope to send you a drawing of it soon. It is very like the Wells hive made by W. P. Meadows, but not quite. I make my own hives. My Wells hives are made of the best yellow pine and cost me about 6s. each; consisting of floor-board, 3 ft. by 2 ft., body, 3 ft. by 18 in., to hold twenty frames, super to hold twenty frames (both double-walled), and shallow cover, truly a cheap hive, but then I get my wood cheap.

I, too, have noticed bees diving down into the roots of the grass, and also combats on the lighting board mentioned by W. R. N. I concluded, in the first instance, that the bees were seeking water; but it is only a surmise. In the second I have been much perplexed, and I am totally unable to account for the bees fighting among themselves, for I feel sure they are of the same hive. It is more mysterious in that the offenders—shall I say cultivators of pugilistic propensities — are limited to one hive. Should you care to hear again from this remote corner of the world, I will write after I have made my spring examination. For the present I am in no hurry to do so, as the outside appearance of most of my stocks tells me that "all's well."—Alfred J. Hutchinson, *Millom, Cumb.*

TANGING THE BEES.

[2452] It is the fashion nowadays to laugh at rustics for "Tanging," though the practice, as mentioned by Aristotle (see B.B.J. of March 2, p. 110) and enforced by Virgil (Georg. iv., 64-66), appears to be universal wherever bees are kept. I have often laughed at my gardener for persisting in the absurd practice. But one day last year when I was expecting a swarm and had prepared a hive with frames and everything all ready, I happened to mention to him which hive I meant to put them into. When the swarm came out, he stood behind the hive rattling his poker and iron tray, and the swarm did of their own accord at once fly down and take possession of that hive. Of course this may have been simply a coincidence, but one such coincidence impresses one's mind more than a dozen failures. I propose to repeat the same experiment this spring whenever practicable, and will report the results at the end of the season, and if many other bee-keepers will do the same a mass of facts may be collected on the subject; sufficient, perhaps, to contribute towards forming an induction. I may mention also that seven years ago I planted four apple trees in the centre of my bee garden—a small square—and of the seventeen swarms hived during last summer, ten had clustered in these trees.—C. C. James, *Wortham Rectory, Diss, Norfolk.*

COMB-BUILDING BY NUCLEI.

[2453.] The reference to the above subject in B.J. (p. 91, March 5, and 107, March 12) leads me to give my own experience in comb-building in 1895. I wanted to try if bees could in any way be induced to build-out combs with worker cells only, and resolved to try second swarms for the purpose. I accordingly arranged a hive holding six frames, each 16 in. by 10 in., and put in a second swarm. I also put two other casts or swarms from the same parent stock into hives fitted with standard frames. The swarm first mentioned—aided by a little syrup feeding—worked hard on the six frames, and the young queen commenced laying. As time went on I

inserted other frames, until they had completed twelve frames without any drone-comb, except a few cells at lower edge of one or two combs. The other two swarms also worked out a good many. This trial leads me to believe that a second swarm will build out a very large number of worker combs if it has a laying queen and is not allowed to rear too much brood. This last point is important, for I remarked that when young bees begin to hatch out rapidly and in large numbers drone-comb building is commenced, and the bees also build drone-cells if the queen stops laying. In conclusion, I should add that the first or top swarm that came off the parent hive was put on "starters" with a comb of honey, as it was a very small one, but they would build nothing but drone-comb and make preparations for swarming again.—S. CRAWFORD, *co. Tyrone, March* 18.

[There surely must be some explanation—beyond what is mentioned above—for a top swarm "building nothing but drone-comb," unless something was wrong with the queen. For the rest, we can readily understand second swarms and casts—put on frames fitted with starters only—building worker-comb as stated, especially if honey was not too plentiful at the time of hiving.—EDS.]

ST. ALBANS SHOW.

[2454.] The committee of Herts Bee-keepers, formed to co-operate for the success of this important exhibition, invite bee-keepers, who are willing to assist the work, in various parts of Hertfordshire, to send their names at once to J. H. New, hon. secretary, Local Committee, Bee and Honey Department, 14, Essex-road, Watford.

FOUL BROOD LEGISLATION.

[2455.] Referring to Mr. Cowan's remarks at the annual meeting of the B.B.K.A. as to informing Members of Parliament of the proposed legislation with regard to foul brood, may I suggest that each secretary of County Associations should write to the M.P.s in their respective districts, asking them to give their support to the measure when brought forward. As most M.P.s are members, and often vice-presidents, of County B.K. Associations, this would not be out of place, and might do a great deal of good towards securing their interest, which is so essential for a scheme like this.—R. HAMLYN HARRIS, *Hambrook, near Bristol.*

COUNTY COUNCILS AND FOUL BROOD.

[2456.] In report of annual meeting of B.B.K.A. in last week's B.B.J. I noticed that the opinion of the County Councils will shortly be asked for on the foul brood question.

Our local press is very favourable to bee-keeping, so I think of explaining matters through it, so that the Councillors may not be entirely ignorant of the case.

You will be pleased to hear that even at this early stage the Duke of Bedford, who is also Chairman of the County Council, has interested himself in this matter. If we can still keep him interested, not only will the County Council be gained, but we shall also win a vote in the House of Lords.—LEONARD SMITH, *Elstow, Beds.*

METEOROLOGICAL SUMMARY.

FEBRUARY, 1896.

Locality, Stoke Prior, Worcestershire.
Height above sea-level, 225 ft.
Rainfall, 0·4 in. Greatest fall in 24 hours, 0·22 in. on the 20th.
Rain fell on four days.
Max. shade temp., 53° on the 19th.
Min. temp., 20° on the 26th.
Max. shade temp. at 9 a.m., 49° on the 28th.
Min. temp. at 9 a.m., 23° on the 1st.
Frosty nights, fifteen.
Max. barometer, 30·52 on the 3rd.
Min. barometer, 29·43 on the 20th.
A mild month on the whole. Bees on the wing nearly every day. A large amount of pollen collected. Contracted entrances a necessity, owing to the inclination of bees to rob. Gooseberry bushes bursting forth. Apple and pear trees in bud. A steady barometer at the close. — PERCY LEIGH, *Beemount.*

Queries and Replies.

[1439.] "*Wells*" *Hives for Beginners.*—I am just commencing bee-keeping, having had but one year's experience, and have been making a "Wells" hive, intending to put two skeps on it this spring; but, after seeing your advice to others situated like myself in late numbers, I feel rather inclined to discard it for this season, unless I can utilise it in some other way than as a "Wells" hive. 1. Can I do this and use it as two single-queened hives by cutting through centre and adding ends? 2. Or can I divide it into two parts by putting in a thin division-board (not perforated), and working a stock in each brood compartment, with separate supers? The hive takes twenty-four standard frames in all—twelve in each compartment. Would there be any objection to this plan? Of course the hive could not be lifted off floor-board, but I have seen a hive similar to the above, and I think there would be considerable economy in heat and also in timber; there would also be no draught through division-board, as there

must be in perforated dummy of the "Wells" hive. 3. To whom must I apply for membership of county association, and should I get a visit from expert this spring? 4. What are the chief difficulties in working the "Wells" hive? I should have queen-excluder in two separate parts, so that only one compartment would be opened at once. — BLUESTONE, *Rugeley, Staffs.*

REPLY.—1. This would be making two distinct hives in every sense, so it is really only a question of "joinering." 2. Yes, but—if not too difficult a job to manage—we should make the separation of the two stocks more complete by having the entrances at each end, instead of both being front. One main objection to these twin hives is that any disturbance of either stock affects both more or less. 3. The expert of the S.B.K.A., Mr. R. Cock, 19, Lichfield-road, Stafford, will furnish particulars wanted if written to. 4. The "difficulties" are not easy to define, but they include parting or separating swarms and queens, which come off simultaneously, and the more or less general knowledge of bee-management, which only comes of experience.

[1440.] *Enlarging Brood-Nests. — Melting Granulated Honey in Comb.*—My hives are combination pattern, holding thirteen frames. On packing for winter I left eight and nine frames in each. The autumn being fine, they stored honey afterwards. I examined to-day (March 21) and find them fairly stocked with bees, and what appears to me far too much honey and not enough brood. There are four frames of sealed honey untouched. 1. Would it be right to take away some of the honey and give empty combs instead next to frames that contain brood? and will this induce the queen to lay more eggs? I have also several frames of candied honey, which, of course, I cannot extract. 2. What can I do with it? Would it do to melt the whole thing and take off the wax when cold? and would the honey so dealt with be good for table use? It would do to give to swarms, but I do all I can to prevent swarming, and seldom have any but a good return of honey. I took sixty sections and four frames of extracted honey from some of my hives last year. — W. TODD, *Oundle, March* 21.

REPLY.—1. Quite right; but only remove one frame of the sealed stores at first operation, and before inserting the empty comb next to brood—uncap a small portion of the food in comb next to the empty one inserted. Examine a week later to see if eggs are laid. If this is so repeat the operation on *opposite side* of brood nest. 2. Melt as proposed, but only to a sufficiently high temperature to bring wax to surface, otherwise the flavour of honey will be deteriorated.

[1441.] *Making Artificial Swarms.*—I have four stocks of black bees in frame-hives. On examination a few days ago they were found to be very strong indeed—large patches of brood and plenty of stores. I am anxious to swarm them artificially and have four new hives prepared. Will you be kind enough to inform me in your next issue the earliest time it will be prudent to do so. We are having very fine weather and pollen is coming in very freely.—AYCLIFFE, *Dover, March* 23.

REPLY.—It is not advisable to make four swarms from four hives, as is apparently intended, unless the operation is deferred till weather becomes settled and warm. It would be far safer to make one artificial swarm from two hives, taking from one the queen and comb of brood on which she is found and putting this in new hive on the old stand. The combs and brood of the parent hive is then set upon the stand of the second hive, which latter is removed a few yards away. Thus of the two hives used for making the swarm, No. 1 furnishes the queen and bees, while No. 2 re-supplies No. 1 with bees to keep brood warm and raise a new queen in the latter. This plan may be carried out at end of April with strong stocks.

[1442.] *Bees in Hive-roof and in Immovable Combs.*—We bought an odd lot of bees and some hives from a party leaving our neighbourhood, which said lot had been neglected for years past. They are most vicious bees, and the hive (a bar-framed one) had been so mismanaged that not a single frame could be raised for inspection, while the bees had free access to the roof, and in consequence had filled it with combs and honey. A surplus chamber with a vengeance! After a lot of trouble we got the roof off and the bees out; but the combs in the hive-body are all in a mass, and we can do nothing with them at all. We have an empty hive on hand, and thought of putting the one named above on the top of this, and letting the bees work down into it, as has been advised in your pages several times. 1. If you recommend this course, when should it be carried out, and when should the top one be removed? 2. How can we get the bees and combs out of the latter?—A PAIR OF BEGINNERS, *Rowde, Wilts.*

REPLY.—1. When the hive is fairly full of bees it will be ready for placing in position above new one. 2. Much will depend on the honey season as to removal, because the upper combs will be used for storage when brood-chamber is carried down to lower hive. As to getting bees out, a super-clearer would render the task easy; but combs will require cutting out piecemeal after reversing the hive, cutting away side-attachments, and raising the hive-body away from the mass of frames and combs.

LECTURE ON BEE-KEEPING.

On Thursday evening, March 13, the first of two lectures on the above subject was delivered in the school-room, Appleby, near

Doncaster, by Mr. F. J. Cribb, expert of the Linc. B.K.A. The chair was taken by R. M. Sutton-Nelthorpe, Esq., and a good audience was deeply interested in the lecture, which was illustrated by a capital set of lantern slides, many of them being photographed by the lecturer, who took for his subject "Our Bees and their Hives." In concluding the lecture Mr. Cribb warned his hearers against foul brood, which was in the country, explaining what it was, how to recognise it, and what remedy to apply. He also showed several slides illustrating the *bacillus alvei* in its different stages, and the appearance of the comb affected. The remedy recommended was certainly an effective one, if rather drastic; the bee-keeper who discovered this disease in a hive being advised to close it up until the evening, and in the meantime to harden his heart like a steel file; next, smother the bees with brimstone, and finally to burn the lot with the frames and combs, afterwards disinfecting the hive.

At the close of the lecture the Chairman, who is also Chairman of the Educational Committee of the County Council, addressed the audience, expressing the pleasure with which he had listened to the lecture, and observing that with regard to the means to be adopted for the extermination of this foul brood and kindred diseases, it was only to be done by all the counties co-operating together, and that if they would only follow the advice of the lecturer as regarding foul brood, it would soon disappear from the country. A hearty vote of thanks to the Lecturer and Chairman closed the meeting.—(*Communicated.*)

Echoes from the Hives.

Mattingley Vicarage, Heckfield, Winchfield, March 18.—All my hives (nine single and two "Wells") have come through the winter successfully. No sign this year of dysentery. As "Wells" hives are still on their trial, I may mention that in mine every hole in both perforated dummies was carefully stopped with propolis by the bees (226 holes in each dummy). The propolis in upper holes was sufficiently thin to be able to show a little light through when held up to the window. Mr. Wells makes no mention of this drawback to his system, and apparently does not suffer from it. I attributed the propolisation at first to the fact that the bees, which I had put into the hives last autumn, were strangers to each other, but an expert tells me that the same thing has happened with him, where the bees had been in the hive for twelve months, and had worked together comfortably all last summer without attempting to close the holes of the dummy. I wonder can the season have anything to do with it, or the locality, or the race of bees.—H. SALTER.

Heeley, Sheffield, March 9.—My stocks are doing good work just now; the very mild weather is enabling a lot of pollen to be gathered, and breeding has commenced generally.—P. B. WOOD.

Fordwich, Canterbury, March 19.—To-day, for the first time this year, pollen is coming in in large quantities. I have young drones flying from one of my best colonies.—NED SWAIN.

SONGS OF THE BEE.

Poetry touching on the subject has from time to time appeared in your pages. I therefore venture to suggest that you should print a series of "Songs of the Bee," culled from all available sources, and doubt not your contributors will favour you with an excellent selection.

I enclose one picked up the other day which might form No. 1.—D. M. M., *Banffshire, N.B.*

"THE SONG OF THE BEE."

"Buzz! buzz! buzz!
This is the song of the bee.
His legs are of yellow,
A jolly good fellow,
And yet a great worker is he.

In days that are sunny
He's getting his honey;
In days that are cloudy
He's making his wax;
On crocus and lilies,
And gay daffodillies,
And columbine blossoms,
He levies a tax!

Buzz! buzz! buzz!
The sweet smelling clover,
He, humming, hangs over;
The scent of the roses
Makes fragrant his wings;
He never gets lazy;
From thistle and daisy,
And weeds of the meadow,
Some treasure he brings.

Buzz! buzz! buzz!
From morning's first light
Till the coming of night,
He's singing and toiling
The summer day through.
Oh! we may get weary,
And think work is dreary;
'Tis harder by far
To have nothing to do."

SEASONABLE QUESTIONS.

AT WHAT AGE DO QUEENS LAY?

Question.—Last season I had a colony that cast several swarms. Ten days after the last

swarm issued I looked into the hive, but could see no eggs. Two days later I opened the hive to give them some brood, supposing them to be queenless, but now I found some eggs. This would make the queen about twelve days old before laying. Is this common?

Answer.—As a general rule I expect to find queens laying when ten days old; but I have found them laying when only seven days old, and had fecundity delay as long as twenty-four days. The young queen, when weather and everything is propitious, generally leaves the hive in search of the drones when she is from five to eight days old, the majority going on the seventh day to a successful mating. Some queens meet the drone on the first flight; but the majority fly out and are gone a few moments, to return without mating—my opinion of this being that they fly a few rods from the hive at this time to carefully mark their location and void their fæces. The next time they fly they go for the sole purpose of their wedding trip, and they will usually be found laying in two days from this second flight, if the day is fine and drones plentiful. The time of the year and the state of the weather have much to do with the time a queen begins to lay. In early spring or during the fall, queens rarely lay till they are from twelve to fifteen days old; and if a week or ten days of stormy, cloudy, and windy weather should happen to occur when any young queen is about five days old, she would not even attempt to leave the hive till she was from twelve to fifteen days old. Thus the questioner will see that what he gives is only a common occurrence. Many a queen-breeder has had stormy weather prevent the mating of queens till it would so happen that the queens from nearly all of his nuclei would fly out and begin to lay at about the same time, although such a state of affairs is not to his liking, as it means the destruction of many queen-cells which he hoped to save, and then a shortage of cells when he most wishes them, owing to his being obliged to send off so many queens all at one time.

QUEENS BEING "BALLED."

Question.—Last summer I had two swarms come out very nearly together. The first had a queen with its wing clipped, and the most of the bees had returned when the other issued, this last swarm having a queen with perfect wings. The swarm clustered and was hived in the usual way. In half an hour or so this swarm began leaving its hive and went straggling back to the parent hive. After a little I opened the hive and found a ball of bees nearly as large as my first on the bottom-board, and in this ball of bees was the queen. Why did these bees act in this way?

Answer.—In this question the writer has touched what has been to me one of the greatest nuisances in natural swarming, for I have had scores of very similar cases. Often, when I was about leaving home for church or some other place, when time was precious, I have had swarms issue, I hiving them with the thought that I had done a nice thing in a little time; but by the time I would get the horse hitched up and all ready to depart, the bees would begin to show a commotion and return to the old hive. If I had hived them on the old stand, as I generally do, they would scatter all over, going into other hives only to be killed, or received according to the condition of the colonies where they went, this often keeping me at home, or making me so late that the pleasure of the trip was nearly or quite spoiled. I have carefully studied into the cause of such procedure, and believe it comes about by a few bees from other swarms or hives entering the new hive with the new swarm; and as these bees are strangers to those composing the swarm, the queen is balled for safe-keeping till all get acquainted, or from some other reason best known to bee-ology. As soon as a queen is "balled" for any reason, the result is very nearly the same as would be the removal of the queen, which, as all know, is a stampede and general search for her. Failing to find her, their only alternative is to go home, if they would preserve their existence; for staying where they are, without a queen, means that they go out of existence as a colony, when the bees which make up the present swarm cease to exist, from death by old age, or otherwise. Knowing that the supposed loss of the queen is the cause of the trouble, the only way to remedy the matter is to help them find their queen. This can be done by opening the hive as soon as the bees are seen to become agitated and fly out in the air, and smoking the ball of bees till they release the queen, when a general hum of content will be set up, the bees who have missed "mother" running about with fanning wings, and those in the air returning to the hive with a general rejoicing. This once smoking generally restores quietude with the swarm; but in exceptional cases the bees will re-ball the queen in ten minutes or so, when another stampede will occur, many bees now being likely to go home to stay, so that, do the best we can, our swarm is so weakened that they will be of little profit to us during that season. To obviate these exceptional cases, I made a few large flat wire-cloth cages, large enough so that they would cover quite a large part of the tops to the frames of the hive; and when I had smoked the ball of bees until the queen was liberated she was put in this cage and placed over the frames. As multitudes of bees could now get near the queen, and the whole colony become aware of the presence of the queen among them, no more trouble would occur, the queen being liberated the next morning, when all was sure to go well. A frame of brood will generally hold the bees; but as they sometimes "ball" the queen till she is injured, I prefer the cage.—G. M. DOOLITTLE, in *Gleanings*.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column. Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

Mrs. L. (Lockerbie).—*Recipes for Bee-food.*—We do not know the number of BEE JOURNAL containing the special information asked for, though it has appeared several times over in various ways, and it is obviously impossible for us to print details of the special wants of readers, which we are glad to count by not a few thousands. All information, however, as to preparing bee-food, candy-making, medicating syrup, &c., appears in the hand-book, "Modern Bee-keeping," which may be had from this office for seven stamps.

SHOTTER (Ilkeston).—1. *Ants in Honey House.*—A good sprinkling of powdered naphthaline will do as much as anything we know of to effect a riddance of these pests. 2. *Managing Bees located at a Distance.*—If the stocks are well supplied with food, no attention is imperatively needed until supering time—say, about first week in May. If food is getting short, your friend on the spot could give a cake of soft candy weighing about 2 lb., which would probably tide a stock over till natural food came in. 3. We should not advise open-air feeding under the circumstances. 4. Refer to back numbers of B.J. for candy-making. One recipe appears so recently as the 6th ult. (page 59).

THIRD YEAR (Shrewsbury).—*Space between Top Bars and Surplus Chambers.*—The space between bottom-bar of shallow-frames and tops of brood-frames should not exceed $\frac{3}{8}$ in. *Excluder Zinc.*—Our preference is to lay the zinc direct on top-bars with the length of perforation running *across* spaces between frames. There is no need for framing the zinc. *Bee-space.*—By a "bee-space" is meant just so much room as will pass a bee easily when on its legs. Practically this is about three-eighths of an inch.

W. LITTLE (Melksham).—*A Beginner's Queries.*—1. *Excluder Zinc.*—This is used for keeping queens out of surplus chambers. Ironmongers do not keep it, but any dealer in bee-appliances will supply the right kind of metal. For full replies to other queries we must refer you to "Modern Bee-keeping," which will be sent from this office for seven stamps. A beginner cannot possibly get on without some sort of guide-book to assist him, and this is a cheap and good one. The Rev. W. E. Burkitt, Buttermere Rectory, Hungerford, is Sec. of the Wilts B.K.A.

W. H. S. (Sparkbrook).—*Adding Frames to Brood-Nest.*—1. On no account must shallow frames of comb be inserted between those of standard size when enlarging brood-nests. If the latter is too small, the shallow combs may, however, be used overhead for the purpose. 2. *Preventing Swarming.*—There is no certain means of doing this. Timely room, shade, and ventilation is very helpful in lessening swarming, as is also the keeping of young queens only; but this is all that can be done.

F. KNIGHT (Holloway).—*Bees in a London Suburb.*—It is quite possible that bees would find forage in the locality named, as they have been known to do well at Highgate. A season's trial would, however, soon test the matter. April is the best month for purchasing stocks, and May for swarms. You could obtain either from any of the London dealers who advertise in our pages.

O. J. BARNETT (Brynmair).—*Spring Feeding.*—1. Bee, and box containing it, had escaped from envelope. 2. If the stock is now well supplied with food there is no need whatever for feeding. 3. Give an extra frame in centre as soon as four seams of bees are seen on the five combs now in hive, and a second five days later if weather is warm.

PORTO RICO (Garstang).—*Dry Sugar-Feeding.*—Since soft candy-making is now becoming so clearly understood by bee-keepers, and its advantages are so obvious, dry sugar-feeding has almost fallen into disuse. Besides, genuine Porto Rico sugar—the only kind really adapted for the purpose—is so difficult to obtain that we see no reason for using moist raw sugars as bee food. If there is the slightest predisposition to dysentery, the large proportion of molasses, or treacle, such sugars contain cannot but be injurious to the bees so far as tending to aggravate the mischief.

E. MOURANT (Jersey).—The Chapman honey plant can be had from Mr. G. Rose (see advertisement at foot of "Prepaids" column).

H. M. (Tetsworth).—*Chilled Brood.*—If you are quite sure the brood is chilled only (not foul), remove the combs of dead larvæ, and contract the hive to only so many frames as the bees can cover.

PERCY LEIGH (Stoke Prior).—*Bee Candy.*—Sample received is an excellent candy, and the glazed case in which it reaches us admirably adapted for placing above feed hole in quilts when feeding bees.

F. BRIDGETT (Stoke-on-Trent).—*Feeding Bees.*—Unless a properly-made feeder—as sold by dealers—is used, the syrup must be given in a wide-mouthed jar, which, after filling, has a piece of muslin tied tightly over the mouth and is then inverted over a feed-hole cut in the quilt covering top-bars of frames.

Editorial, Notices, &c.

THE COMING SHOWS.

APPEAL TO EXHIBITORS.

We invite the attention of bee-keepers, appliance manufacturers, and exhibitors generally to the three important exhibitions of bees, hives, and honey, now arranged for and held under the auspices of the B.B.K.A., which may be said to inaugurate the show season of 1896.

These are, first, the "Bath and West," mentioned below; second, the "Royal Counties" Agricultural Show at Eastbourne, June 9 to 12; and, lastly, the "Royal" Show at Leicester on June 22, and five following days.

At all of these exhibitions numerous and good prizes are offered for competition, not only for honey of the current year, but for the bee produce of "any year;" thus affording a chance for bee-keepers located in districts where June honey is not available. But besides this, the exceptional privilege is offered of entry fees being returnable in classes for new honey to those who, through a backward season, may be unable to stage their intended exhibits.

We therefore appeal with confidence to readers, trusting that they will, for the good of the cause, make an effort towards securing a good "start off" for such shows as the above. The early date at which they are held severely militates against a very large entry, but it must be borne in mind that "those who help first help most," and we shall not, we trust, appeal in vain to those who have honey by them, or are looking forward to some of '96 in time. Appliance manufacturers, too, will we are sure, not hesitate about sending goods to these early shows for reasons which are obvious to those well-stocked with goods for the coming season.

BATH AND WEST SHOW, ST. ALBANS.

ENTRIES CLOSE APRIL 8.

Bee-keepers should send immediately for schedule to Mr. E. H. Young, sec. B.B.K.A., 12, Hanover-square, W. Entries close April 8, post entries April 15. It will be seen that not a day is to be lost in securing schedules, sending entries, and persuading others to do likewise. Those who can get early honey will have a fine opportunity.

BATH AND WEST SHOW.

MEETING OF HERTS BEE-KEEPERS AT ST. ALBANS.

By request of the British Bee-keepers' Association, a meeting was held a few days ago in the *Herts Advertiser* Offices, St. Albans, Mr. F. W. Silvester in the chair, for the purposes of interesting the bee-keepers of Hertfordshire and adjoining counties in the forthcoming Bath and West of England Society's show, and raising funds for meeting the expenses incidental in the exhibition of hives, honey, &c., on that occasion. The Chairman said he hoped the exhibition would be made worthy of the county which was one of the pioneers in the bee-keeping movement. Mr. J. H. New, of 14, Essex-road, Watford, kindly consented to act as honorary secretary, and, subject to their consent, the following ladies and gentlemen were elected a committee with power to add to their number:—The Rev. Astley Roberts, Messrs. F. W. Silvester, J. Helsby, A. B. Lipscomb, W. C. Childs, Stobo Aston, J. H. Rogers, A. Payne, A. Lewis, H. S. Gibbs, R. Wailes, W. J. Sworder, Miss Selby, Miss Gayton, and Messrs. Gudgeon, Reynolds and Wait. It was resolved to ask Mr. G. N. Marten, J.P., to act as treasurer to the fund. The hope was expressed that the result of this movement and the exhibition would be the formation of a County Bee-keepers' Association. Another meeting was arranged to be held soon at Mr. Henry Gibson's office, and an appeal was drawn up inviting all interested to co-operate.

STAFFORDSHIRE B.K.A.

The annual meeting of the Staffordshire Beekeepers' Association was held in the Guildhall, Stafford, on Saturday, March 21. Mr. W. G. Bagnall (vice-president), in the chair, and among others present were the Revs. J. D. Glennie, and A. R. Alsop, Messrs. P. Blair, R. Cock, J. H. Collier, T. Cooper, E. E. Crisp (hon. treasurer); J. R. Critchlow, G Farrington, E. Gilman, W. Stendall, E. W. Turnor, H. E. Twentyman (hon. secretary); W. Williams and H. G. Wilkes, members of the committee; G. Dale, A. Goldsmith, W. E. Gould, J. Pellington, W. H. Scarlett, E. Titt, J. Wallis, Mrs. Stendall, Mrs. Capner, Miss Stubbs, and others.

The Chairman, in referring to the annual report and balance-sheet, said their credit balance on the year's working was somewhat reduced from that of last year, the loss being due to the fact of the entries at their annual show being less numerous than in 1894, and the extra expenses owing to the distance of the exhibition ground from the town. Then they had to consider the fact that in some parts of the county a very bad year for honey was experienced.

The late hon. sec., Mr. Twentyman, feeling compelled to resign the office, it was stated that Mr. E. Crisp (hon. treas.), had expressed his willingness to act until a permanent secretary could be found.

Mr. Crisp then submitted the financial statement, which showed that the year commenced with a credit balance of £19. 7s. 11d. The total receipts amounted to £50. 2s. 5d., and

the expenditure £18. 17s. 9d., so that, allowing for a deficit of £20. 5s. on the West Bromwich show account, there was a balance of £10. 19s. 8d. left in the treasurer's hands. Mr. Crisp explained that if the outstanding subscriptions had been paid, it would have placed them in as good a financial position as last year. The entrance fees at West Bromwich were £2. 3s. 6d. less than they were at Stone, and the expenses £5. 14s. 4d. more.

A discussion then took place upon an item in the report referring to foul brood and to compensation for destruction of diseased stocks of bees, and ultimately it was resolved that the question of payment by the Association for destruction of foul brood be left in the hands of the committee.

The report and statement of accounts were approved and adopted. Mr. Crisp then read the report of the Expert (Mr. Cock), detailing very fully the work performed by him for the Association during the past year.

The late hon. sec., Mr. Twentyman, next read his own report, in the course of which he said it was with reluctance that he tendered his resignation, because the work had afforded him much pleasure, and he was conscious of the good feeling which the committee had extended to him in spite of many shortcomings in this the first office of the kind which he had held.

The report was adopted, as was also a resolution, moved by the chairman, that an expression of regret at the resignation of the hon. secretary be embodied in the report of the Association. Mr. Twentyman had filled the office with credit, and they all thanked him heartily for his services.

The retiring officers and committee (with the exception of Messrs. Wood and Yarde, who retired) were re-elected, and the proceedings closed with the usual votes of thanks.—*(Communicated.)*

ABOUT OUR BEES.

BY HENRY W. BRICE.

X.

NATURAL AND ARTIFICIAL INCREASE.

As the season advances, and our colonies increase in strength, the question arises, are they going to swarm? Except in a few cases it may be said that natural swarming is one of the most unprofitable phases of bee-keeping, and the most anxious thoughts of the bee-keeper are at certain seasons devoted to methods of prevention. When honey begins to come in real earnest, swarming is the most undesirable thing that can happen in an apiary devoted to honey production. To those who make sale of swarms their chief business, the "swarming mania" is of course a blessing; but for the honey-producer—absent, may be, at business for the greater part of the day—it must, if possible, be avoided.

That swarming cannot always be prevented I admit, but in a very large majority of cases I mean to say that swarming from bar-frame hives is mainly the fault of the bee-keeper. In other words, it shows a lack of proper and timely supervision on his part. A strong stock can easily be made to swarm during the honey season by introducing a ripe queen-cell, as I have proved (and lost the swarm, too, in proving it).

But the experiment clearly demonstrated that the absence of ripe queen-cells is the main factor in preventing swarming. The question then arises how are we to avoid ripe queen-cells in the hive? Before replying, we must consider under what circumstances queen-cells are started, because three conditions require to be dealt with, viz., old queens, want of room in the brood-chamber, and lack of ventilation; and as long as any of these are present, so surely will bees swarm. Let these three conditions be absent, and there will be no *natural* swarming if the right sort of bees are kept. Bees may build embryo queen-cells, but it has yet to be proved that a queen will lay an egg in them while there are empty worker-cells available. For myself I do not believe she will. In fact, I am positive that if there are empty worker-cells in the hive the queen will never look at queen-cells, and so far as she is concerned they will remain untenanted. That the bees may place an egg in an embryo cell is possible, but if they do then one of the adverse conditions above-mentioned will be present. I say, then, to those who don't want artificial swarms, keep only young queens, give plenty of room in brood-nest by the aid of supers and abundant ventilation. To those who require swarms, well, the answer is obvious.

No bee-man fails to admit the pleasurable excitement caused by a natural swarm "coming off." The hum of thousands of bees on the wing is always a delightful sound to him. Even the rattling of pots and pans to many lend an additional charm to the scene, and watching the bees cluster on a top branch of a high tree, far beyond easy reach, may provide a not too pleasing variety to the occasion to non-adventurous minds; but to the man away at his work while all these charming incidents are happening, and who, on his return home, learns that the swarm—inaccessible to his women-folk—stayed till "ten minutes ago," and then departed to fields and pastures new; for such a one I say it is wonderful how little he appreciates the beauty of the late proceedings on the part of the bees, and how unreasonable he is in bewailing his loss.

The more one studies this swarming business, however, the more is the fact forced home that bees will not swarm "naturally" unless compelled by stress of circumstances to relinquish that which is most dear to all living creatures, *i.e.*, "home." To those possessing out-apiaries, the question is of the utmost im-

portance. Swarming, except in the few cases indicated, is not, to my mind, an indication of progressive bee-keeping, but it shows how regularly undesired swarming entails certain loss on those who are plagued by it. With such bees as carniolans the utmost care and watchfulness is necessary, owing to their very rapid rate of increase. But once the "swarming-fever" has taken possession of any variety of bees, it is a most difficult task to stop it other than by artificially dividing the stock; in which case it is practically good-bye to profit so far as honey. Another potent factor which leads to swarming is an abundance of drones in the hive; although it in no way follows that because drones are present in a hive the bees will swarm. Restricting the male element of the population to small proportions, however, has much influence on swarming.

Supposing, then, a swarm has issued, and the bees have clustered within easy reach, place a cloth on the ground (or a large board will do), grasp your hiving-skep by the "handle" at top, and hold its mouth uppermost beneath the swarm. A sharp shake of the bough, and the bees drop in; now gently turn the same over on to the cloth or board, and raise it up on one side by means of a stone, to allow the bees plenty of ventilation, and the stragglers to run in. If we have secured the queen the flying bees will soon join her, and gather in. Shade the skep until the evening, and then proceed to re-hive them in a frame-hive. If, however, we have not secured the queen the bees will soon be out of the skep again, in which case we shall have to repeat the operation. In preparing the frame-hive for their reception I always give a strong swarm six frames of foundation, and one of brood, and have never had a swarm reissue, even when the queen has been missing. The affection of bees for young brood is most marked, and, coupled with the fact of their consciousness that they have the material at hand from which to raise a new queen, seems sufficient to restrain the most recalcitrant swarm from deserting a new home. Second swarms, if fairly large, often make good stocks by care, but casts or third swarms should under any circumstances be returned, keeping them in a cool place till the evening. They are not worth hiving separately; they ruin the parent stock, and are generally worthless. Feed all swarms for a few days after hiving, and longer if weather is bad. Having got the swarm quietly established as an independent colony, and presupposing that no second swarm is wanted, it becomes necessary to turn our attention to the parent colony. Herein we shall find queen-cells in various stages of development, and it requires the interference of the bee-keeper in selecting the cell which shall produce the new queen. All cells but *one* should be destroyed and in choosing that one make certain that it is built on a larva under three days old. My own practice is to remove all *sealed* cells as doubtful, and to choose an unsealed one, destroying the larvæ in the remainder. I thereby cause all the nurses to give strict attention to the one and always with satisfactory results. Other cells will be built, no doubt, but after an examination two or three days later, if the chosen one is progressing favourably all others are removed. Happy the bee-keeper whose honey harvest is not spoiled by natural swarms, for when the flow is over he can swarm his bees artificially, and so get all the increase he desires. Division of stocks is also absolutely necessary for raising new queens to take the place of those over two summers old. So far as queen-rearing—my recent articles on the subject may be still fresh in my readers' minds, but I hope later on to add somewhat to the subject to bring the matter fully "up to date."

In considering artificial swarming, I do not propose to deal with this operation from skeps. It may do for those who are located in places where bee-disease is unknown, but foul brood is so rampant in many districts and the skep so difficult of investigation, that the risk of making artificial swarms from diseased stocks renders the practice, in my opinion, bad. To make artificial swarms from frame-hives is a far different thing. Here everything is open to us, and if we make a mistake it is mainly our own fault. Do not attempt to make three or four stocks from one or the result will be failure, however strong the colony may be. Two can be made from one, or better still, three from two. In the former case, move the parent hive to a new stand a few feet away, and place the new one on the old stand. Previously furnish it with five or six frames of comb for preference, or with full sheets of foundation. Combs are the best, as no time is lost, and these should be built out in anticipation in the early part of the season. Now go to the old stock and take one frame of brood and the queen, and place it in the centre of the new hive and pack warmly down. Close up the frames of brood in the old hive (now queenless), and carefully feed both stocks. The old stock may, subject to the supervision already mentioned, be left to re-queen themselves; though valuable time would be saved if we have a young queen to hand to introduce after the lapse of twenty-four hours.

Thus the flying bees, or foragers of the hive, return to the old stand and constitute the "swarm," while the young bees, who are the nurse bees, raise a new queen from the brood left with them in the old hive.

To make three colonies from two, take four or five frames of brood and eggs (but no bees) from a strong stock, brushing the bees off into the hive to which they belong; close up the remaining brood combs, and give empty combs outside in lieu of removed ones; place these beeless combs into a new hive, which takes the place of another strong stock removed to a fresh stand for the

purpose. The new hive will receive all the flying bees from the last-removed stock. In moving frames of brood from the first stock find the queen, and do not interfere at all with the frame she is on, but choose others for the purpose. All operations of this description, entailing the exposure of brood, must be carried out in warm, settled weather—about mid-day, but on no account later than 3 p.m. Keep the hives open no longer than necessary. *Feed* all divided stocks.

(*To be continued*).

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

SUPER FOUNDATION.

BEES REFUSING TO WORK UPON IT.

[2457.] Kindly excuse me for again troubling you in regard to this comb-foundation business, but I find from correspondence addressed to me that the failure I complained of in the BEE JOURNAL of January 9, '96 (p. 14), extends to England and Scotland. And what is of much importance is the fact that complaints are not confined to the super-foundation of any one manufacturer. It is thus a matter that may come home to any one; and I much wonder why bee-keepers, who have been sufferers more or less, will not by publication of their failure help to correct it, and not leave it entirely on one individual to do so. Now that the season of '96 is near, I point out an easy way of preventing being imposed on, in the future, in the way of adulterated, or what is just as bad, of unadulterated foundation, contaminated by some lubricant in the foundation mill. The correction is very simple, and in where the failure points to the foundation, a publication of the failure together with the name of the manufacturer of the foundation. I will ask inexperienced bee-keepers to remember that perfectly unadulterated foundation may be rendered just as objectionable to bees as that which is adulterated by being contaminated by contact with some lubricant in the making. And then, not to be misled by the offer of a maker who gives a guarantee that his particular foundation is unadulterated, and challenge analysis in case of failure; remember analysis may show the foundation unadulterated, but entirely fail to show that it was contaminated by contact with something objectionable to the bees. Publication, then, only will ensure that neither form of objectionable foundation be given by any dealer. And no bee-keeper wants either an analysis or the opinion of an expert to know when he gets wrong foundation; he can satisfy himself at any time he sees foundation refused under favourable conditions, by using foundation of another maker alongside that refused and observing the result.

In common justice, however, I strongly object to any dealer pointedly alluding in his advertisement to the super foundation which I complained of in your pages as being "adulterated," unless he has by analysis proved it to be so. I sent a sample of the refused foundation to the dealer I refer to at his own solicitation, in accordance with my offer to send the same to anyone asking for it, suggesting that he should have it analysed, but refusing to name the dealer from whom I got it. Under those circumstances I do not think it right to identify me with the assertion that the foundation I complain of was absolutely adulterated, as until the contrary is proved, I believe it was only contaminated by soap in the making, as a lubricant. So far as the matter affects bee-keepers, by bees refusing foundation, contamination in lubricating is as bad as adulteration. Yet they are two widely different matters, as regards the dealer's honesty, so I will then ask that this advertisement of his be revised by the advertiser alluded to.—T. KIRWAN, *co. Galway, Ireland, March* 28, 1896.

THE DAIRY SHOW OF 1896.

ADDITIONAL CLASSES FUND.

[2458.] A considerable sum has been promised for the above object, and several donations already received. I am also glad to say that the Council of the B.B.K.A. at once saw the advantage to the honey producer of what has been proposed, and agreed to take the matter up by handing it over to their Exhibitions Committee for dealing with.

I have therefore sent on to Mr. E. H. Young, secretary of the B.B.K.A., the names of those gentlemen who kindly responded to my invitation and promised to assist in the good work. It now remains for honey producers and bee-keepers generally to come forward and support the movement, which I believe will be the means of securing three or more extra classes at the coming Dairy Show.—H. W. BRICE, *Thornton Heath, March* 28.

CLEARING SHALLOW-FRAME SUPERS.

[2459.] In reply to "Self Taught's" (2446, p. 118), appeal to bee-keepers to help him in removing above, I would advise him to adopt

my plan of clearing bees from supers placed on hives for clearing-up—a notice of which is to be found in p. 37 of the B.B.J. of January 24, 1895. This would enable him to remove those frames that are not fastened to the tops of frames in lower story; the others could then be operated on by cutting. He will find this plan an easy and most effectual way of getting rid of the bees, without risk of annoyance, and the whole operation should not take many minutes.—JNO. HALL, *High Blantyre, N.B., March* 28.

BEES AND BROOD DYING.

A PUZZLING DIFFICULTY.

[2460.] Enclosed herewith is a piece of comb and bees from a hive of mine, which I am quite at a loss to understand; and if you can assist me in arriving at some explanation I will be much obliged. To help you in this, I may say two of my hives (which I will call 1 and 2) stand close together. Early in 1895 No. 1 was a strong stock on nine frames, but about the middle of April the bees began to die off very fast. Then they started throwing out nearly full-grown brood, just as a stock would do if suffering from hunger. But they had food in abundance. Some days hundreds of bees were put out. I did not suspect foul brood, as I could see neither signs of it nor detect any bad smell; so I set it down to lack of vitality in the queen, and I deposed her, putting in a queen-cell, which hatched all right, and the trouble from that day disappeared. So far for No. 1.

No. 2 was also a good stock last year, so I proposed to let it swarm and utilise all the queen-cells I could secure from it after swarming, as I wanted some young queens at the time. This was done, but unfortunately the young queen left to head the parent stock never got fertilised. I had no other queen-cells by me, and therefore decided to remove the barren queen and make a nucleus colony from No. 1—as drones were plentiful at the time—and join the surplus bees and queen to the now queenless bees of No. 2. This was all successfully accomplished, the stock doing well in a super during the heather season. They were put up for winter in splendid condition—plenty of both bees and stores. About the end of January of this year, however, the bees began dying off again, hundreds being thrown out every week since, till at the present time there are scarcely enough bees to cover four frames. There are no signs of dysentery, and their stores (mostly heather honey) are all sealed over. If it is foul brood, why are there not more affected cells? Last year, after I had re-queened No. 1, and—as I thought—all was perfectly right again, combs from both these hives were exchanged about amongst other hives with no bad results. The nucleus made from No. 1 is now a prosperous stock, the bees occupying the hive in which No. 2 lot were last summer; while the hive in which bees of No. 1 formerly were likewise now contains a strong stock. There is also no want of ventilation in the hive.—A TEN YEARS' BEE MAN PUZZLED.

[There is nothing in comb to explain the bees dying or brood casting complained of, brood being quite healthy and plentiful. Beyond seeing to the conservation of warmth by contracting the hive and adding to coverings, there seems nothing further to be done but wait till swarming time, when, if the trouble continues, we should re-queen the stock. It would not surprise us, however, to learn that the bees get on all right when new honey begins to be gathered.—EDS.]

BEES IN BANFFSHIRE.

A LADY BEE KEEPER'S REPORT.

[2461.] It is now more than a year since I sent you an echo from our hives (I have no doubt had I netted another 1,000 lb. of honey you would have heard of it long ago), but seeing some weeks ago a letter from "D. M. M.," Banffshire, I thought I might also send you some account of our bee-doings since I wrote last, since I also am a Banffshire bee-keeper. I cannot say that last year was particularly good, yet we had over 450 lb. of fine honey. The weather broke in this district just as the honey flow came on, and there was not for any length of time the continual sunshiny days which are necessary to a good honey harvest. But hope springs perennial in a bee-keeper's breast, and I am already hoping to have a better report to send you for 1896. What has become of my bee friends, Mrs. Harrison, "Bee Kay," and "Beta"? I hope they are bee-keepers still, though somewhat silent; for of all hobbies there is none will give more pleasure (and profit too) than bee-keeping, except flowers, and with them it is pure pleasure, minus the profit, which is always a consideration in the family of a working man. I think I must tell you about a new hive I invested in, which I call the Princess of "Wells," it holds thirty frames, is divided into six compartments, on the "Wells" system, and is purely and simply a wintering hive. We have always had in our apiary some skeps, as I greatly enjoy the swarming time (no drone traps or swarm catchers for me, I always catch them myself), and the swarms come in handy, to fill up any hives that may have given out from various causes (never, though, from foul brood, which does not come so far north, nor from the disease through which, I was sorry to see, D. M. M. lost his hive). Well, I intended the "Princess" for several swarms, so that in the spring, should any of my stocks show signs of spring dwindling (as also they have often done) I would unite with them one of the stocks from the Princess,

headed, as all would be, by young queens. As I was rather late in the season in getting the hive, we only managed to fill four of the divisions, so that this year would scarcely be a fair test, as one great advantage for safe wintering would be the heat on both sides of at least the four stocks in the centre. Our bees were all out very lively on some of the May days we had in the beginning of February, and were carrying in pollen (not in the big balls seen later on), but pollen all the same. I was astonished to see at two hives young bees being cleaned on February 11, and could scarcely believe it possible at this (to us) early date. I have now eighteen single hives, one "Wells," seven skeps, and last, but not least, the "Princess"—thirty-one queens in all. If a good year, I trust to be able to send you a good report; but there, it's time I had finished. Wishing the JOURNAL a prosperous year, and every success in its invaluable work among bee-keepers.—A SCOTTISH COUSIN, *March* 23.

P.S.—I was pleased to see "D. M. M.'s" letter some time ago anent the S.B.K.A., being also a member of that short-lived society. What did it die of, I wonder? Was there no honey (money) in the hive, or was it spring dwindling?

FOUL BROOD.

COMPULSORY POWERS.

[2462.] No one who has paid attention to the reports concerning the action taken to obtain legislative power in dealing with foul brood will hesitate to acknowledge the debt of gratitude due to the B.B.K.A. Special Committee for their untiring efforts in the direction above referred to, and many besides myself will doubtless regret if full powers cannot be secured. We shall, however, get what the Special Committee are satisfied is the fullest power obtainable, and must be content with the conviction that, without obtaining all that is really desirable, we shall have a means of doing much good; while an impetus will be given to the bee-keeping industry by the valuable advertisement, which this particular movement must be, of the work being done by the British and affiliated Associations.

I am induced to write on this well-worn topic because of a recent experience. On January 31st I went to a village less than a mile away, along with a friend, to examine a suspected stock which was found to be badly affected with foul brood, and in consequence we advised immediate destruction, and left satisfied that the advice would be acted upon. But no, the heart of the owner was hardened, and not until a fortnight ago was this source of danger removed. My friend, Mr. Brown, who destroyed it, looked round a neighbouring apiary, and found there another badly affected stock which was destroyed without a murmur of protest. It is not easy to say what similar trouble has yet to be unearthed in the district, as those conversant with the nature of the disease are aware.

Last autumn I went by request to assist a bee-keeper to remove some stocks into Cambridge from a village near, but finding them in a terribly bad state, I declined to be a party to their removal and, after some hesitation on the part of the owner, was allowed to destroy the combs, &c., on the condition of saving the bees. A few days later the owner informed me that he had consulted a "competent authority," who stated that the stocks need not have been destroyed. Who this "authority" is I cannot find out. These stocks were brought some time ago from Kent into a village where I know no disease was previously heard of.

If necessary I could add other cases in Cambs and elsewhere worse than this, which makes me pity those who, through indifference, or worse, on the part of owners of infected apiaries, may have now to regret starting the hobby or increasing their apiaries by purchased stocks.

If the powers to be conferred by the Bill now being drafted are to be exercised by County Councils, action should be possible whenever and wherever a really "competent authority" declares the disease to be in existence.—C. N. WHITE, *Somersham, Hunts, March* 26.

DEALING WITH FOUL BROOD.

[2463.] The other day I examined my hives to ascertain their condition and to satisfy myself that they had ample provisions. Whilst doing so I was shocked to find that one had foul brood very badly. There were no less than four frames which had large patches of dead larvæ and the bees were very reduced in number—a wonder they lived through the winter at all. I at once destroyed bees and combs and disinfected the hive. I was very surprised to see what havoc this fearful disease had worked in so short a time, though I suppose the queen commenced to lay very early this year. I used a piece of the foul-broody comb to inoculate a test tube of gelatine, obtained from the Office of Health, in order to propagate the *bacillus alvei*, as I am studying its growth in different stages under the microscope. — R. HAMLYN HARRIS, *Bristol.*

Queries and Replies.

[1443.] *Feeding under Floor-boards.*—Some two or three years ago in BEE JOURNAL, Mr. John Walton, of Leamington, reported how he fed his bees in the spring under the

frames instead of on top. I should be glad if Mr. Walton still feeds in this way, and if so, will he kindly explain his methods for the benefit of others? I should say this is a good way of feeding in spring, as it does not allow any escape of heat from the brood-nest—a most important item in cool weather.

Spreading Brood.—I see Mr. Brice does not advocate the spreading of frames and uncapping of stores in early spring. Do I understand him rightly, that there is no need whatever for stimulative feeding, providing that the stock is well provided with enough stores to carry it on until honey begins to come in?

Mr. Brice also advices the use of brown paper for smoker fuel instead of bagging. I have always used the latter, as paper either did not keep alight or was all burnt out in a very short time. Has Mr. Brice any particular way in charging his smoker with paper so as to keep it alight for a good time, and would he give the dimensions of his fire-chamber, and where one could obtain a good smoker?

Broad-shouldered Frames.—Mr. Woodley, in his "notes" on page 64, advises "Self Taught" to have top-bars of frames 1⅛ in. wide; would he please say if he has altered the dimensions of his top-bar from 1 1/16 in. to 1⅛ in.? because, some time ago, he advocated 1 1/16 in. as the width for top-bar. Does he use the same kind of frames for extracting? I do not see why the frames could not be made so as to exclude the queen altogether from going up into the supering chamber. He might also kindly say how "strong lye" is made for cleaning tin separators?

Rearing Queens. — I have difficulty in rearing a young queen in the parent hive under the following circumstances. Say a stock swarms and you wish to dispose of the old queen and rear another in its place. I proceed as follows (but have failed in every instance):—First: Stock swarms. I then secure it in skep. Second: I open parent hive and cut out all queen-cells but the best one. Third: Secure and dispose of old queen in swarm, then return swarm to parent hive. I then expect them to settle down to work and rear the queen left for them in the cell. But no! in about eight or nine days' time out come the bees again, headed, I suppose, by a virgin queen. After securing swarm I examine hive and find they have gone in for another batch of queen-cells. I cut them all out and return swarm again, when they will very probably settle down to work. What makes them start more queen-cells when one is left for them? I wish to avoid the second bother with them and also the risk of losing the swarm (as I have done) when they come out the second time, as they are more liable to start clean off with a young queen. Perhaps some one will be able to tell me where the blunder comes in.

Girders for Section Racks.—What is the best kind of girders to use in making racks, wood or tin? The advantage of the latter is that it allows of a bee-space under, therefore lessening the risk of bee-crushing, while the rack is not attached to the frames so firmly by the bees. This latter fact makes the rack easier for removing when filled. On the other hand, with wood girders the sections fit together closer in the rack, and the sections come out freer from propolis, and some say "squarer" than when tin girders are used.

Nuclei.—When forming nuclei to rear young queen to replace an old queen later on, should the nuclei be formed close to the hive that is to be re-queened? And what is generally done with the two or three frames of bees left in the nuclei? After taking out the queen, and you have no further use for the nuclei, should they be united to the stock at the time of introducing the young queen?

Manipulating Bees.—What is the best time of day for manipulating bees? I have seen some advocate early in the morning, while others prefer the evening—six o'clock and after. Personally I have always found them quieter to be handled between the hours of 10 a.m. and 5 p.m. One thing that favours the latter time is that a lot of them are out in the fields, therefore you have not such a bulk of bees to deal with.—AN ANXIOUS BEE-KEEPER, *March* 27, 1896.

[As our correspondent addresses his rather "large order" in queries to certain of our contributors, we leave those gentlemen to kindly send us brief replies, which we will supplement as needed.—EDS.]

[1444]. *Combs in Skep Broken down in Transit.* — 1. Will you kindly inform me whether the bee in the accompanying pill-box is a queen, or only a large-sized worker? If a queen, can you tell if she is old or young, and has she been impregnated? I may say that about three weeks or a month back I received two skeps of bees from the country, which I placed on an outlying piece of land belonging to me, about four miles north from here. The skeps came up in a properly-packed crate (bottom upwards) but got terribly knocked about in the transit. One skep was about two years old, and full of comb and honey; the other a last year's swarm, with combs only built about half way down and very new and white in appearance. It had, however, plenty of bees and stores. This last skep suffered most, for all the combs were shaken from their fastenings, and on reversing the hive in setting it on the stand they all fell to the bottom. I fixed the combs up edgewise as well as I was able, and left them to their fate. I have visited them several times since, and bees of both skeps appeared to be working freely on fine days. I ought to mention that in the other hive only one comb—about the size of a cheese plate—was dislodged. This I took quite away, as there was plenty of honey left. On visiting the hives yesterday, I found the bee now sent on the ground in front of the hives. There were other dead bees in

the immediate vicinity, but all very much smaller in size than the one now sent. 2. Can you advise as to what I had best do in the matter of skep with broken down combs?—H. K. L., *Hornsey Rise, N., March* 27.

REPLY.—1. Bee sent is not a queen, but a worker. A closer inspection of the dead insect would have shown our correspondent the wax flakes between each segment of the abdomen, which of itself proved the bee a worker, and also the undaunted readiness with which the poor little creature was preparing to make good the damaged combs by secreting wax for repairing purposes. 2. The combs had best be left as they are, so long as the bees seem to prosper. In good time they will probably swarm, in which case we hive the swarm and, twenty-one days later, when the combs are entirely free from brood, separate them from oor-board by pulling a "cutting wire" under skep to sever the attachments. Then turn up the skep, and drive bees out in usual way, hiving them as a swarm.

[1445.] *Number of Frames for Brood-chambers.*—I have two stocks of bees, one of which an expert told me on March 14 was queenless. I, therefore, ask:—1. When would be the best time to procure a queen from a distance, as I should like to introduce new blood into my apiary. The expert also told me to remove coverings from the tops of the frames, take off all the winter packing, and leave the hive top open to dry on a fine day. The coverings are not wet, but a little damp with the heat of the bees. 2. Should I do this? The other hive is boiling over with bees which do not seem to have room enough. They covered eight frames in middle of March. 3. Should I give them any more room or not, as they are breeding very fast? The gentleman I have mentioned advised me not to give them any more room in the brood-chamber, but put a queen-excluding dummy at the back of frames and fill the rear part of hive up with comb foundation. This would mean putting in seven more frames behind dummy as it is a 15-frame hive. I myself thought of giving two more frames in brood-chamber now and two others later on, and so on till the hive was quite full of brood. Then put on queen-excluder over brood, and work shallow-frames and sections for surplus honey. 4. Kindly let me know if the fifteen frames will not be too much room for the brood? I have had no honey from either, and have fed both from the first. They have not much food left, so I am giving candy to them now. I have been examining the old stock to-day, and find there is brood in several stages. I watch the B.B.J., but do not see any case like mine. —NOVICE, *Pentyrch, Cardiff.*

REPLY.—1. If you really desire to re-queen the hive for the purpose of introducing new blood—the sooner a queen can be got the better—but the stock is evidently not now queenless, as shown by your inspection of the hive on the 14th. 2. There is no positive need for it, but drying quilts in the sun (if damp) on a warm day is conducive to the comfort and health of the bees. You must, however, keep the hive well covered down while drying wet quilts to keep in the warmth. 3. Give additional frames in brood-nest till you have ten or eleven well occupied with brood; then prepare for supering overhead. If you want room for honey storing in rear of brood-chamber, give more frames there in summer, not in spring. 4. We consider ten or eleven frames quite sufficient for brood-chamber, if occupied almost wholly with brood and not honey.

[1446.] *Transferring Bees from a "Lard-bucket."*—I have a stock of bees in a lard-bucket, given to me the year before last. 1. Can I place the bucket on a frame-hive so that the bees will eventually work down into it? and, if so, when must it be put on? 2. Later on, could I remove the bucket, as I prefer to have the bees on frames, and when should it be removed? They did not swarm, but built six pieces of comb *outside* of the bucket, and several times had the appearance of swarming. I removed the outside combs in the autumn, and found honey in centre ones. The bees are strong, and are daily carrying in pollen. I have two other hives, which I fed, and am still feeding them with honey. 3. Is this right?—E. J. CALVERWELL, *Newport, Mon., March* 27.

REPLY.—1. Yes, but the frame-hive below must have its frame fitted with full sheets of foundation, otherwise much superfluous drone-comb will be built. Do not set the "bucket-hive" above the other till the bees show by their busy activity that they are prospering well, and rapidly increasing. About first week in May will be a likely time. 2. You will be able to judge fairly well when "bucket" will be fit for removal as a surplus-chamber by comparing results of other hives. 3. Quite right if the bees require food.

[1447.] *Working "Wells" Hives.*—Last spring I made a "Wells" hive, and at swarming time purchased a swarm which I put into one compartment of it with a solid dummy between. The bees worked on, and in August I drove two stocks from skeps, keeping them separate. I then replaced the dummy by a perforated one of zinc, and a similar dummy between the ten frames, thus dividing the second compartment in two. I then put one driven lot on each five frames, thus having three lots at work in one "Wells." They are now strong and busy. 1. I shall, of course, have to remove one of the three queens, so I ask which should it be? 2. In working the "Wells" hive for supering are bees allowed to mix in super?—JOHN S. BIGGS, *Radstock.*

REPLY.—1. Remove queen which has least brood. Two days later take out dummy in second compartment. 2. Yes. This working together is the gist of the "Wells" system.

BEES AND BROOD DYING IN SPRING.

The season of 1895 has in this locality been a peculiar one in many respects. The loss of bees around here during the winter and spring of 1894-95 was fully a half. I lost more than half of mine, so last summer I ran only one yard, and this is all I intend to run in the future, for I have bought a piece of land, and intend to follow farming in connection with bee-keeping. But as I shall have a very favourable location for bees I expect to keep profitably about 150 colonies in this yard.

Now, perhaps it may interest some for me to give my opinion as to the cause of the large loss of bees here last winter and spring, and to describe some of the things in regard to bees that took place the past summer.

Although it was very dry here in 1894, we had a fair fall flow, which lasted very late, and colonies went into winter quarters very strong in bees, especially young bees. But I believe there are other things of more importance for the successful wintering of bees than to have plenty of young ones in the fall. One summer I had a strong second swarm issue from a large box-hive. I do not remember the date, but it was just before basswood blossomed. The queen of this swarm was lost on her mating-trip, or in some other way, for I am certain that they did not have a laying queen at any time during the summer. I thought I would let them do without one, to see what they would do. They were hived on combs that contained considerable honey, so they did not have much room to store below; but they filled up what room there was, and then, instead of working much in the sections, they took the world easy.

In the fall I thought I would unite what few of them were left with some other colony; but on coming to examine them I was surprised at the amount of bees there was left. There seemed to be nearly as many as when I hived them; so in order to experiment further they were put in the cellar, where the rest were. They came out in good shape in the spring. A queen was given to them; and although they dwindled away very fast, they pulled through all right.

Now, in this case the workers lived at least ten or eleven months, not only a few, but thousands of them. But they would not do so every year. If the same thing had been tried the past summer I do not think there would have been a live bee left after they had been in the cellar a month.

I believe bees live longer some years than they do others. In the fall of 1894 there was a good deal of honey-dew gathered in this locality. This, or something else, caused the bees to have diarrhœa after they had been confined for some time. I think it was the honey-dew that caused it, for colonies that had sugar stores did not have it. Still, I have wintered bees on honey-dew in first-class shape; in fact, last winter some colonies wintered in good condition on it. Again, some that died with honey-dew stores did not get the diarrhœa. They seemed to fall right down from the combs, and die without a struggle. What caused this difference in some cases, where the stores were the same, gathered from the same yard, and the colonies side by side in the same cellar, is more than I know. But these cases were exceptions; for most colonies that were on stores that they gathered got the diarrhœa, and were in poor condition when put out in the spring. Mine were put out the latter part of March, and for a week or two everything was very favourable. But suddenly the field-bees commenced to die by the thousand. Strong colonies were, in a few days, reduced to a small nucleus; many colonies perished outright, and this when the weather was warm and mild. The bees were at the time working on a species of willow from which they were getting large quantities of honey or honey-dew. I felt sure that this was poisonous, and that it was the cause of so many colonies dying around here last spring. On examining these willow blossoms with a strong glass, they were found to be alive with a small species of louse. Some around here thought that the reason the field-bees died off so suddenly was because they had poor winter stores, and that they were, therefore, in a feeble condition when put out in the spring, and able to stand but a few days of hard work. I do not think this was the reason, because I had some colonies that had pure basswood honey, and some that had sugar for winter stores, and these colonies suffered as badly as the rest.

About the time these willow blossoms were gone there commenced to be a good deal of dead brood. It seemed to die in all stages, and this dead brood continued all summer. It was not foul brood, although it resembled it somewhat. Every colony I had was affected with it, some more so than others. I do not know what it was, or what caused it. I thought at first it was caused by poisonous honey; but that could not have been the case, for this dead brood continued as long as there was any brood reared.

Last fall I put some colonies into clean hives on frames filled with foundation. Others were put into new hives on new empty frames. Others I treated the same as one would for foul brood, giving frames with starters first, then changing again. But in all cases, as soon as new brood was started it commenced to die as badly as before. Some queens that I got from a distance were introduced to some of the worst-affected colonies. In some cases this changing of queens seemed to help; in others, it did not.

Just before white-clover bloom the workers took another spell of dying. They would come out of the hives mornings soon after sunrise, crawl around awhile, then die. Their intestines seemed to be full of thin transparent liquid of a very sharp and acid character. While this lasted only a few days, some colonies

were considerably weakened. Late last fall some colonies were affected with the same thing again. From some hives there would come out hundreds, and die during the day. Some of them were so reduced that, in some cases, I united four or five together before putting them into the cellar. My opinion is, that these peculiar conditions were caused by the character or kind of stores gathered. But I cannot understand why some colonies should be affected worse than others.—*C. Davenport*, in *Gleanings*.

[At the Illinois State Convention in Chicago, two or three reported this same dead brood, and bees dying, as you speak of. From the description given, as in your case, it was plainly not foul brood; but what it was, no one seemed to know. There have been repeated letters on the same thing, and we had it one season in our own yard and part of another. We did nothing for it, and it finally disappeared of itself. We shall have to conclude that this dead brood is probably a disease, with characteristics very similar to those of foul brood, but differing in that it has no effect on bees. And now the questions that I should like to see solved are these:—(1). Is it a case of poisoning, or (2) is it a real disease caused by bacillus, similar to that of foul brood? (3). If so, can it be cured? In answer to the first question, Mr. Davenport seems to feel that it is not a case of poisoning. In answer to the third question—if he is correct, treating the dead brood the same as foul brood does not have any influence so far as the cure is concerned. Perhaps some of our German bee-keepers, especially scientists across the water, can give their American cousins a little more light. While we may be, and probably are, ahead of them in practical apiculture, owing perhaps to the favourable conditions on this side, they are certainly ahead of us in scientific research.—Ed. *Gleanings*.]

Bee Shows to Come.

May '27 to June 1.—Bath and West of England Agricultural Society at St. Albans. Bees, hives, and honey. Thirteen classes and liberal prizes. Entries Close April 8. For schedules apply Edwin H. Young, Secretary B.B.K.A., 12, Hanover-square, London, W.

June 22 to 26.—Royal Agricultural Society at Leicester. Schedules now ready. Entries close May 1. All letters relating to Bee Department to be addressed to Edwin H. Young, Secretary B.B.K.A., 12, Hanover-square, London, W.

Notices to Correspondents & Inquirers.

David Hancox (Deddington).—*Home-made Hives.*—1. If the "strip" which encloses frame ends be omitted, how do you propose to regulate distance between side-bars of frames and the hive sides? The "difficulty you see in removing frames when necessary" is entirely imaginary, if measurements given are carefully adhered to. 2. Frames with form of wide shoulder, shown on sketch, would be objectionable, and difficult to manipulate for many reasons, and which would soon present themselves in practice. 3. The bell-staples are to guide the body-box into proper position before slipping on the outer case. 4. No; the side-bars do not project below bottom rail. If you are inclined to introduce alterations in construction of the hive (no doubt intended to be improvements) we advise making one after your own ideas, and a second hive exactly to those of the designer of the hive referred to, and see which works best in actual practice.

New Beginner (Attercliffe).—*Bees Deserting Hive.*—1. The stock most probably became queenless last autumn. Have you no idea for how long the hive has been deserted? 2. We should not give more than two or three of the combs to a swarm, if one is put into the hive. These with four lbs. of candied honey in each might be melted down and used as bee-food when wanted.

M. Quinn (co. Down).—*Perforated Zinc for Section Dividers.*—It has been claimed that perforated zinc dividers or separators are far better than plain ones, as not tending to cut off the bees into separate lots, as the latter more or less does, besides being advantageous in other ways. We shall be glad if you will try them and report results.

P. Allen (Luton).—*Taylor's Swarm Catcher.*—Mr. E. H. Taylor's address is Welwyn, Herts.

E. B. Stuart.—Comb is affected with foul brood. The honey may be used with perfect safety for household purposes, but must on no account be given to bees. We should burn combs and frames and disinfect the hive thoroughly before using again.

F. Bridgett (Stoke-on-Trent).—*Feeding Bees.*—About 1 pint of syrup per week. See page 130 for instructions.

R. M. Lamb (Burton Pidsea).—*Spring Syrup.*—We do not quite know what is meant by "brown sugar candy for syrup in the spring." But for candy-making we never use any but refined white cane-sugar, in crystals.

O. J. Barnett (Towyn).—Bees sent are Ligurian hybrids, a cross between the Ligurian and our native bee. The difference in markings is quite common among hybrid bees of same stock.

Editorial, Notices, &c.

USEFUL HINTS.

WEATHER.—Since our last weather notes were written a considerable change has taken place in the temperature, not only of these islands, but of nearly the whole European continent. All through the month of March high, cold winds, cloudy skies, and frequent rain has been the rule, while the lower temperature caused the air to lose the warm, spring-like mildness noticed in this column at the beginning of the month. The advent of April, however, has witnessed a return of more favourable conditions, and the month promises to be a fine one.

In an interesting article on the "Weather Prospects in April," after referring to the general increase in power of the sun's rays in April owing to the more prolonged daylight, the *Graphic* goes on to say:—

"At times when the sun is screened by a dense canopy of cloud the days are often cold, but on the whole the weather is fairly warm. The effect of the sun is shown by any map exhibiting the mean temperature, the coldest weather being now experienced in the north of the British Isles, while the warmest weather is over the south of England. The difference between the mean temperature in the extreme north and south is about 6 deg., and the increase of temperature since March ranges from about 4 deg. to 6 deg. The mean air temperature for April at Greenwich during the last half-century is 48 deg., the mean of the mid-day readings being 57 deg., and of the night readings 39 deg. With a cloudless sky the thermometer ranges from 40 deg. at five o'clock in the morning to 63 deg. between one and three in the afternoon; while with a cloudy sky the range of temperature is from 44 deg. in the early morning to 50 deg. soon after noon. The south winds are the warmest, having an average temperature of 50 deg., while with north winds the temperature is only 43 deg. On the warmest of April days the temperature in the shade commonly touches 70 deg., and in 1893 the thermometer registered 80 deg. There are very few years in which we entirely escape night frosts in April, although they do not occur at all frequently. The average rainfall at Greenwich during the last fifty years is 1·6 in. The heaviest rainfall occurs in the south-west of Ireland, the fall at Valentia being 3·8 in.; the least fall is 1·3 in., in the north-east of Scotland. The average duration of sunshine at Greenwich is 128 hours, or rather more than four hours a day. On our south coast the average amount of sunshine is from twenty to fifty hours more than in London. Notwithstanding the heavy rainfall in March, there is still a deficiency of rain since the commencement of the year over nearly the whole of the British Isles. In London the deficiency exceeds 2 in."

REMOVING SURPLUS HONEY.—We add an additional line by way of *finale* to the advice already given to our correspondent "Self Taught" (2446, p. 118), regarding his trouble in the removal of shallow-frame supers. First, then, as to plinths: There must be no plinths round surplus-chambers—this is a *sine qua non*. The first thing, therefore, is to remove them. A couple of "Van Deusen" clamps (costing 2d. each) will prevent "blowing off when empty." Or Mr. New's plan of making the plinths detachable might be adopted. The next point is to bear in mind that nothing in the whole range of manipulations in the apiary so tends to "convert a fairly quiet colony of bees into a "horde of raging demons" as the attempt to lift off a surplus-chamber full of honey with a frame or two from the lower storey sticking to its under side. These latter usually drop off (or are knocked off) and fall with a bang among the crowd of bees below, and if the operator is not well "mailed"—and veiled, too—the memory of that removal usually remains for a long time. Many old hands have felt it once, but most of us *once* only. To avoid such a mishap *our* advice is: Take four small wooden strips, 4 in. long by ½ in. wide, cut from a broken section, pare the ends down to wedge shape. When removing the super raise it gently with the point of a screw-driver at one corner and slip in a wedge; do the same at all four corners. The thickness of the wedges provides space at the junction for blowing in a few puffs of smoke on each side, but allows no bees to escape. Use the "cutting wire" if space between surplus

and brood-chambers is faulty, otherwise a screwing motion in lifting off the full combs (*before raising* the box containing them) will effectually prevent any disturbance of the frames below. Then, if the "boy," referred to by our correspondent, deftly drops a carbolised cloth on the top of the uncovered frames as the upper box is lifted off, we will guarantee the easy "way out of the trouble" so earnestly desired. The "Wells" super holding 90 lbs. of surplus is rather an absurdity, so far as lifting it *en bloc*. Combs from such supers should certainly be removed as described by Mr. John Walton on page 124.

Extending the Use of Honey.—At a time when bee-associations are endeavouring to help such of their members as experience difficulty in disposal of their surplus honey, it may occur to bee-keepers of an active business turn of mind to inquire if no new method can be found for presenting honey of fine quality to the public in some form not hitherto adopted. If this could be done in a way likely to meet with favour it would provide an outlet for the product as yet untapped. Take, for instance, the use that could be made of candied honey instead of the fondant sugar in such sweetmeats as chocolate creams. Why, in the manufacture of this confection alone we may suppose that hundreds of tons of sugar are consumed annually, and when a product so distinctly flavoured as many honeys are could be used instead of cane or beet sugars, we do not see why chocolate honey-creams might not become very largely used. There is no sweet that can compare with honey from a medicinal point, either for children or for adults. Moreover, it can be used by persons prohibited from partaking of cane or beet sugar in any form. We merely mention this as one idea among many which appears to be worth thinking out. There would be no difficulty in getting honey to granulate with a perfectly smooth grain, similar to the fondant sugar used in the sweetmeat referred to, and the very nature of honey, the nectar of flowers, gathered by Nature's own handmaiden, the busy bee, would commend it to general favour.

Pursuing another line of thought in the same direction, we find Mr. J. H. Martin—a well-known contributor to American bee journals and secretary of the Californian Bee-keepers' Association—writing to the *Scientific American*, with the object of "enlisting inventors, if possible, in a new field for the exercise of their genius." Mr. Martin goes on to say:—

"I am a honey producer, and I find that as time goes on little improvement has been made in placing our honey upon the market in new and popular packages. We have our little pound packages of comb-honey, which are desirable and can scarcely be improved; but a greater portion of our honey is thrown from the comb by means of the honey extractor, and is shipped in liquid form in 60-lb. tin cans, to eastern and foreign markets.

"It is safe to say that there is no natural food product that has equal nutriment and healthful properties in a compact form as honey. Honey caters to the taste of all classes and conditions. Still, there are multitudes of people who never taste this desirable sweet. The syrup of the sugar-cane can be manufactured in various grades of syrups, sugars, and into confections a very multitude. Liquid honey, on the contrary, has never advanced beyond the tin can, the glass jar, or the jelly tumbler, because there are difficulties connected with the manipulation of honey not encountered in the manufacture of the various products from cane juice. If heat up to the degree of boiling water is applied to honey, its flavour is destroyed, and the colour of even the whitest honey rendered dark and unattractive; a great degree of heat is therefore not to be entertained.

"Nearly all pure honey granulates, or candies; this is a molecular change, and a gentle heat restores it to liquid form. In its candied state it never gets beyond a plastic, salvy condition; and, when candied in a glass jar, it has an appearance of lard, very detrimental to its sale.

"Honey also candies in a low temperature. Now, suppose the temperature that surrounds the honey were carried to that degree known only in experimental purposes, would it have any further molecular effect? Or again, many liquids are solidified under enormous pressure. What would be the effect upon honey? If it could be solidified by these or any other method, aside from the application of heat, honey would compete with con-

fections made of other substances. There is no record that experiments in this direction have ever been tried.

"If honey cannot be solidified, still there is a chance to offer it to the public in a small, popular package that partakes of the nature of a confection. Our ideas for such a package naturally turn toward glass or tin. But glass is too fragile and tin too expensive. If not too costly, a gelatine capsule of unique form, and large enough to hold a few ounces of honey, sold for a trifling sum, would come nearest to an ideal honey confection.

"From the above, inventors may gather what is needed, and perhaps be able to aid a large and growing industry."

BEES REFUSING COMB-FOUNDATION.—This question is again opportunely raised by our Irish correspondent, Mr. Kirwan (2457, p. 134). No doubt the publicity given to the fact of faulty comb-foundation being sent out by several makers will ensure an increased amount of care, but so far as offering a "hint" what to avoid to those who are inexperienced, we may say that nearly all the samples of "refused foundation"—and they were many—sent to this office were of almost white wax, and had, moreover, a distinct "tallowy" smell, like that of the "Japanese wax" sold at 6d. per pound. Choose, then, thin pale-yellow foundation, and prefer that having about it a honey aroma, such as will strike anyone as sure to be grateful to the bees.

WARWICKSHIRE B.K.A.

The annual meeting of the Warwickshire Bee-keepers' Association was held on the 26th ult., at the Grand Hotel, Colmore-row, Birmingham. Mr. J. C. Lord presided, and among those present were the Rev. Canon Waller, Miss Waller, Rev. T. Slevan, Colonel Nuthall, Major Deykin, Messrs. A. H. Foster, E. M. Pearson, J. R. Young, J. H. Parkes, B. Boothroyd, Hasluck, Corbett, S. Turner, T. Jones, C. Buller, W. Churchill, J. N. Bower (hon. sec.), J. R. Ingerthorp (assistant sec.), G. Franklin (expert), &c. Apologies for absence were announced from the Right Hon. Jesse Collings, M.P., Mr. P. A. Muntz, M.P., and others. Mr. Collings wrote that he had a special interest in the development of the work of the Association, from the fact that it undoubtedly would largely benefit the social and economic condition of our rural population, and especially the class of small cultivators and cottagers.

The Hon. Secretary read the report, which congratulated the members upon the continued growth of the association, thirty-five new members having joined during the year. Financially the position of the association had much improved. The committee had adopted a registered honey label for the exclusive use of the members, and it was hoped this would be a means of effecting a ready sale of honey, and establishing a means of distinguishing British from imported honey, with a guarantee as to purity. Through the co-operation of the British Bee-Keepers' Association and the County Councils, the Board of Agriculture had taken up the question of "foul brood," and it was highly probable that some legislation would be introduced to minimise that great evil at an early date.

The Chairman, in moving the adoption of the report, alluded to the imports of foreign honey into this country, and said that instead of £60,000 worth being imported, they could easily supply the whole of the home market.

Lord Leigh was re-elected president for the ensuing year, and the vice-presidents were also re-appointed.

The executive committee for the current year were appointed, and the hon. treasurer (Mr. A. H. Foster), hon. auditor (Mr. J. L. Hawkes), and the hon. secretary (Mr. J. N. Bower), were severally re-elected, as were Mr. J. R. Ingerthorpe (assistant secretary) and Mr. G. Franklin (expert).

The report and balance-sheet were adopted.

Mr. Franklin delivered a lecture on "Wintering Bees," and he also gave a few hints as to the spring and summer treatment desirable for securing a successful honey harvest.

The meeting then terminated.—(*Communicated.*)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

[2464.] The weather in this district during the past week or two has not been ideal bee weather, but whenever there came a burst of sunshine it has been a pleasure to see how eager the bees were to improve the shining hour. The large amount of natural pollen carried into the hives tells its tale of the increasing breadth of the brood-nest, and, with every prospect of a forward hay-harvest, the

rapid progress of our colonies is gratifying, as the crux of the honey-raising question lies in getting bees ready by the time of *our* harvest. We may have abundant forage all round us, coupled with good gathering weather, but without the gatherers, "where are we?" Therefore, now is the time to build up stocks for the white clover, sainfoin, alsike clover, and the trifolium. The bees that are hatched out during the last half of April and the first half of May are the ones to fill early supers for the "Royal" Show at Leicester, or your early swarms, if working for increase, ready to build up into stocks for the ingathering of the lime honey in July, or the later harvest of heather honey on the moors and in the Highlands of Scotland.

May I say another word with reference to house apiaries, regarding which little or nothing has been said of late. Now is the opportune time for the construction of these useful repositories for bee-hives. To any one contemplating building such I would advise that each hive have a separate floor-board; the shelf or supports on which the hives stand may then be of a skeleton pattern. This floor-board to each allows of moving hives to a fresh position in the house or elsewhere if desired after swarming, leaving the new swarm to use the original entrance to the parent colony, and thus insuring the bulk of the flying bees returning to the old position and increasing the strength of the new swarm. Then projecting eaves will carry the rain off the alighting boards of the top row of hives, while the bottom row may have a long continuous porch verandah-fashion, or a small one over each entrance, to suit the fancy of the owner. The bees will find the right entrance under any circumstances.

The painting of hives should be attended to, also overhauling stocks, cleaning floor-boards, removing brace-combs and propolis from top bars, and a general straightening up of crooked combs, also the removal of old queen cells to save mistakes later on when the bees make preparations to swarm. Some folks say that great risk is run in getting queens "balled," &c., but after an experience of several years I have yet to lose a queen by "balling" as a result of "spring cleaning." My hives are nearly all on the combination principle, with frames across the entrance, and in manipulating I use carbolised cloths with a little smoke to drive the bees down from the damp cloths. I generally use two cloths, one over the front part of frames and one over the frames at the back part of the hive; then, after the first two or three front frames are attended to, I remove one of the cloths and replace the quilt, rolling it up so that it gradually unrolls to cover the frames as fast as they are returned to their proper place; and when the quilt is over the frames the bees set up the hum of "Home, sweet Home," and rush for the front part of hive. The job only takes a few minutes, as I never blow any smoke in at the entrance of hives, but simply peel off the quilt, give a puff of smoke, and allow the carbolised cloth to take the place of the quilt, and begin to manipulate forthwith. The second cloth is used to cover the combs moved to the rear, and the other covers those in front. I keep an eye on each frame, and if the brood is not covered properly with bees (owing to their alarm) I remove the carbolised cloth at the back, and drop on a piece of woollen material, which confines the warmth, and the bees soon return to the brood.

At the late conversazione the question cropped up as to the passing of drones through the "Porter" bee-escape, one or two questioning the possibility of the springs opening wide enough to allow the drone to pass. I myself took the other view, from the fact that both workers and drones are regularly cleared out of the supers, when removing surplus honey. I have removed hundreds of racks cleared of bees by the aid of the "Porter" escapes. When I returned home from the late meeting in London of the B.B.K.A. I examined a "Porter" (one of Porter's own brand), and I find the springs can open out to the sides of the escape nearly an inch wide, giving lateral space for drones to pass easily.

In reply to 1443 (p. 136), I have not altered the width of my top-bars by $\frac{1}{16}$ even, though the particular one I put the rule across when I penned the note to "Self Taught" was nearly $1\frac{1}{8}$, and without reference I hurriedly concluded that the original width was $1\frac{1}{8}$, when I found it $1\frac{1}{4}$ bare, and thought the shrinkage would make it full $1\frac{1}{8}$ wide. This would not be an objection if frames $1\frac{1}{2}$ in. from centre to centre are used, though I admit that with frames $1\frac{5}{16}$ in. wide, if top-bars are full $1\frac{1}{8}$ in. wide, the openings for admission to super compartment would be somewhat circumscribed; yet, even then, not so narrow as excluder zinc. — W. Woodley, *Beedon, Newbury.*

A COTTAGER'S BEE-KEEPING.

[2465.] In December, 1894, we came here from Romford, South Essex, bringing with us four stocks of bees; two in a "Wells" hive, and two in single hives, the whole being brought by road with our furniture. The "Wells" and one of the single hives are on legs, and I gained the experience that hives standing on legs at the bottom of a van get so shaken and jolted on the journey, added to the mischief to the bees from excitement of shaking, and the moisture within the hive from the heat, that great damage is caused to the stock; while the stock in hive without legs suffered no damage at all; and this last one was strong in the spring of '95, while the other three were weak, and combs mouldy. All had queens of '94, and those in "Wells" hive, however, soon became strong in both divisions; but the single weak lot were not

ready for supering till June, nor did it swarm last year at all. I call this hive No. 1. We had eight swarms from the other three lots, seven of which were put back. Our returns for 1895 are:—No. 1, 80 lbs.; the strong single queen stock (No 2) 137 lbs.; "Wells" hive, 255 lb, total, 472 lb. Of this total 75 lb. was got in sections from Nos. 1 and 2, and I have 6½ lb. of good wax. Many of the sections weighed 18 oz. My shallow frames (4¼ in. deep), worked with the wide "W.B.C." ends, weighed from 4 lb. to 4¾ lb. each. The average price received for sections is 9½d. each, the extracted honey making 8½d. per lb.

My receipts are as under:—

Honey sold	£9	6	6
4 lb. wax	0	6	0
Awarded in prizes	3	8	6
Add to this—75 lb. show-honey kept in hand	2	16	0
And about 70 lb. for sale, &c. ...	2	2	0
	£17	19	0

Expenditure:—

Travelling expenses and entry fees for shows	£2	8	6
Appliances, postage, &c.... ...	2	11	6
	£5	0	0

I have increased from four to five stocks. I do not charge for time, putting that item down to pleasure account. Having been an invalid for the greater part of this year, my wife has had to do a good deal of the work about the bees. Of course, keeping bees here is quite different to having them in a large town, such as where we came from, this being an ideal locality for honey-getting; abundance of hazel, willow, palm, and horse chestnuts, a fair amount of fruit-blossom, with charlock and sainfoin. Then we have second crop of red clover, blackberry, and the ivy, from which latter the bees can gather at intervals up to end of November.

I came here to a situation as gardener, but unfortunately injured my spine; and it is very unlikely that I shall be able to do hard work again. So it is some consolation to find the prospects for bee-keeping are helpful to one afflicted as I am.

I have succeeded as a bee-keeper from the first, but I attribute my success chiefly to having followed closely the teaching of the County Association, which I joined on commencing to keep bees. Having read "Modern Bee-keeping" I could drive bees and pick out queens before I had bees of my own; and I think a love I have always had for doing things well has helped me in my bee-keeping.

I hope, if my health allows it and all goes well, to increase to ten stocks in 1896. Then, if I can manage ten, well, I must be content, as I can hardly hope to be able to manage more. My trouble is to get appliances, because cottagers have to get one thing at a time and in small lots, so it costs more, and a great deal extra for carriage, too. I have been fortunate in finding a good market, and by trying to please my customers, manage to keep them. One chemist has taken honey and wax from me for four or five years. This year I have secured two other chemists as customers, and they say the honey and wax is very satisfactory. A grocer would have given me his custom in preference to buying foreign honey, but he wanted it in ½-lb. jars, and, unfortunately, tight times for cash prevented me from laying in a gross of ½-lb. jars, so I had to refuse the order for the present.—Wm. Loveday, *Harlow, Essex.*

A BEE-KEEPERS' DIRECTORY FOR CUMBERLAND.

A PROPOSED MAP OF DISTRICTS AFFECTED WITH FOUL BROOD.

[2466.] In response to the request of many local bee keepers, I have decided to make a map of Cumberland, in which will be shown the locality of every bee-keeper, and also every place where foul brood is known to exist. This is quite a private venture, but can only be made successful by the co-operation of every bee-keeper in the county. Therefore I wish to ask (through the B.B.J. and *Record*) the help of every one concerned. When ready, I will send a copy to all applicants in the order as received, but priority will be given to those who are instrumental in giving information for its production. The value of such a map will be at once seen. Will all Cumberland bee-keepers respond, giving full particulars, not only of their own apiaries of whatever size, but also of their neighbour's, and state all cases of foul brood they know of? I shall also be glad, Messrs. Editors, if you can give me any information as to how to proceed to form a County Bee-keepers' Association, or who could I apply to for such information? Will other Cumbrians give their opinions on this question? Thanking you in anticipation, and for past kindnesses.—Alfred J. Hutchinson, *Millom, Cumberland.*

[The Secretary of the British Bee-keepers' Association is the proper person to apply to for such information as is asked. Address:—Mr. Edwin H. Young, Sec. B.B.K.A., 12, Hanover-square, London, W.—Eds.]

SPREADING BROOD.

[2467.] Your correspondent "An Anxious Bee-keeper (1443, p. 136) has either not read carefully or I have failed to make clear the point I wished to convey. On p. 114, however, my words are, "as an aid to building up strong colonies for the early honey flow, slow feeding plays an important part." But this surely should be clear enough? Later on I continue, "Where the brood-combs are found full of sealed food, remove the comb next the

cluster of bees, and substitute a frame of empty comb," &c., so as to carry on the stimulative feeding in that direction. Then follows, "At the next shift carry operations on to the other side," &c. My object here is to prevent clogging the cells with food to the exclusion of brood, a condition apt to arise where a large quantity of thick honey is uncapped at one time. The bruising of a few cells containing honey is no doubt a means of stimulation, but once bees begin to remove honey they may continue until the brood-nest is overcharged therewith to its detriment. I also think that honey running from a comb causes greater excitement than syrup feeding. These are my main objections to uncapping honey in hives, and I may also add that more cells are generally uncapped than necessary, and that the bees in clearing up the mess caused by wet cappings and dripping honey become unduly excited and are allowed to relapse into a state of inactivity until a fresh uncapping takes place. The work of brood rearing thus goes on in fits and starts, to say nothing of its liability to attract robbers.

Fuel for Smoker.—I have no special method of charging my smoker, a "Bingham" of the American pattern, got from Mr. Meadows. The fire-chamber is about 6 in. long by 2½ in. diameter. I use very coarse brown paper, usually picked up and "saved" for its smouldering qualities. Some kinds of paper won't smoulder at all, and are useless for the bee-man's purpose. The paper chosen is kept dry, and when torn into strips about 5 in. wide is folded into corrugations, forming a grooved roll thick enough to fill the fire-chamber. After lighting well insert it in fire-chamber lighted end down, fix on the nozzle, and give a few puffs till smoke issues freely; set the smoker down nozzle uppermost ready for use. If the fuel burns too freely set it down with the flat side of bellows on the ground.

Time for Manipulating.—If robbing is prevalent choose the evening. If not, as near midday as possible for the reason mentioned by your correspondent, always selecting a fine day.—HENRY W. BRICE, *Thornton Heath.*

PACKING HIVES FOR WINTER.

[2468.] I have been a reader of the B.B.J. for a number of years, and have seen described in that paper not a few different methods of packing up hives for wintering, I thought that perhaps a description of my system might be advantageous to bee-keepers in general. I may state first that I use only two-ply of cloth for quilts. I get a quantity of unbruised straw (*i.e.*, straw that has not been put through the thrashing mill), and cut it the exact length to fit into the hives above the quilts. I put in as much as will be about six inches thick after being gently pressed down with my hands, then put on the roof for all winter. This year when I opened my hives and took off the straw it was all perfectly dry, as were also the quilts, which had not the least damp smell about them, as is too frequently the case when hives are packed up with old cloth, &c. The bees I may say were all in splendid condition.—EAST FIFE, *April* 6th.

FLOOR-BOARD FEEDERS.

[2469.] In replying to "An Anxious Bee-keeper," whose query (1443) appears on page 136 of last week's B.J., I may say, Yes, I still use this method of feeding, and shall shortly set the feeders below such stocks as need them. I don't leave these floor-board feeders on all winter, because such débris as cappings, &c., would be sure to fill up or block the bees' feeding-place. The actual feeder is a tin trough, 12 in. or 14 in. long, ¾ in. deep, and 3 in. wide, which slides into the floor-board, with a wide flange at outside end, so that when pushed in (like a drawer) the bees cannot get at the food from the outside. The trough itself is covered over with wood about ½ in. thick, all but a space about 2 in. by 2½ in., which has perforated zinc bent thus:—

and which goes down the lower side reaching to within ⅛ in. of bottom of the trough; this trough is cut out about the middle of the combs, where the cluster of bees are usually found in spring. The trough draws out two or three inches, but drawing it in or out does not interfere with bees while in the feeder. The syrup (always given warm) is poured in at the trough entrance, about a teacupful every night. The bees can get down into the feeder and empty it to the bottom, providing the board is fixed level before the stock is placed over it. There are bits of wood about ⅛ in. apart for the bees to walk on and to follow down, as they take the syrup, till they get right to the bottom. This plan of feeding saves a lot of trouble, as there are no hive covers to be lifted or wraps to be disturbed, and it takes but a minute or two to feed a stock of bees, and the syrup being warm, I believe it stimulates better than feeding at top with bottle or any other feeder. A friend, to whom I showed it two or three years ago, told me last year that he had adapted it to most of his hives, and spoke of it very highly.—JOHN WALTON, *Honeycott, Weston, Leamington, April* 3, 1896.

REARING QUEENS.

[2470.] Referring to 1443 (p. 137), I for several years practised this plan of preventing increase for a neighbour bee-keeper, who was well satisfied with the results; but I usually had to hive them twice, as detailed by "An Anxious Bee-keeper." I explain it in this way.

The bees have no mind to depend upon *one* queen-cell, even if the bee-keeper has. They therefore take the opportunity (which may be their last) of raising another batch. At the end of eight or nine days the necessity for swarming has increased, and they therefore lead the young queen out.—Geo. Wall, *Harrow Weald, April* 4.

HONEY FROM WILLOWS.

[2471.] Though I resided formerly for many years where willows grew in abundance, until this year I had no convincing testimony that they yielded honey in any quantity. On Sunday, Monday, and Tuesday of March 22-24 last, we had a very high temperature with nothing else in bloom, and a remarkable honey glut occurred during those three days only. There was as rapid an incoming as I have ever known during the height of the season, and had the weather continued warm, supers would have been a necessity.—S. Simmins, *Heathfield, April* 4.

WEATHER REPORT.

Westbourne, March, 1896.

Rainfall, 3·44.	Sunless Days, 11.
Heaviest fall, 1·11, on 20th.	Below Average, 42·6 hours.
Rain fell on 25 days.	Mean Maximum, 48·8°.
Above average, 1·53.	Mean Minimum, 38·1°.
Maximum Temperature, 61° on 24th.	Mean Temperature, 43·4°.
Minimum Temperature, 29° on 15th.	Above average, 3 3.
Minimum on Grass, 24° on 28th.	Maximum Barometer, 30·31° on 10th.
Frosty Nights, 5.	Minimum Barometer, 28·71° on 4th.
Sunshine, 124·5 hours.	
Brightest Day, 19th, 9 6 hours.	

L. B. Birkett.

Queries and Replies.

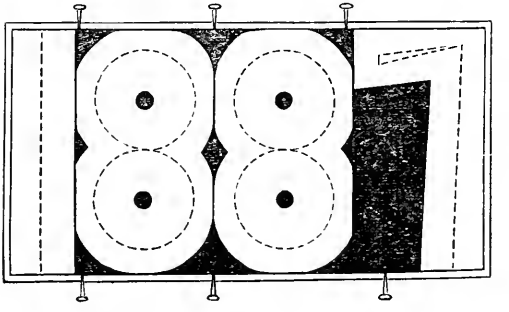
[1448.] *Raw Sugar for Bee-Syrup.*—I will be glad of a word of advice as I am only a beginner at bee-keeping, and there is something wrong, I fear, with my bees. I have four frame-hives, the bees of which seemed strong and were working well until I started feeding them three days ago with syrup made from raw Demerara sugar, and to-day while in the garden I noticed the bees as they came from the hives dropping a yellow substance so freely that the leaves of bushes near the hives were quite streaked and specked with it. The bees also seemed very weak. I send you a few leaves with the substance mentioned, hoping that you can tell me the cause of this, and what I had better do under the circumstances? I have taken off feeders to-day, as I thought the food I give might be the cause of the mischief. I had the hives painted to-day. Could that be the cause?—H. A. C.—*Wickham Market, April* 3.

Reply.—The symptoms point to the food as a cause of the diarrhœa, which is evidently troubling the bees. We are continually cautioning readers against the use of moist raw sugar in making bee-syrup, and cannot understand why anyone will ignore the advice given. However, a few days will no doubt set the bees all right if the food is discontinued.

[1449.] *Design in Honey-comb.*—Will you be kind enough to inform me if a design can be worked out in an ordinary hive, and how it is accomplished, say, from the figures 1896?—Amateur, *Penicuik, N.B., April* 4.

Reply.—We print below, from a former issue, a cut of the kind required, which, though not showing the actual figures wanted, will no doubt serve your purpose. The description is from the pen of Mr. Wm. McNally, who says:—

For the building of honey-comb designs, shallow oblong supers are the best. A very convenient size is 16 × 8 × 3, outside measure, made of ⅜ in. wood. Two of these, placed alongside each other, will cover a ten-frame hive. A glance at the illustration here given will show at once how the work is done. First, sketch in the super the design intended to be built. The dotted lines show the foundation



guides, about 1 in. deep, fixed in position. Having these fixed, get a few pieces of wood nearly the depth of the inside of the super. Form these into blocks to put at the different corners and angles to prevent the bees from misshaping the figures. The black marks in the illustration show the blocks in position, which are only temporarily fixed from the outside with small nails or screws. The spaces for the thickness of the comb, to be about right, should be about 1½ in. wide.

The super is now ready to place on the hive, with an excluder between. Once the bees begin to work in the super, it may be necessary to take it off to see that none of the figures are misshapen; if so, they require to be cut or bent to the desired angle. When finished the blocks are removed, leaving the combs perfected.

[1450.] *Working Two Stocks in One Super.*—I have at present two stocks of bees, which cover about four frames each respectively. Having brought the hives close together, I wish to put one set of bees into the other hive, with a solid division board between them. I should thus have seven or eight frames covered with bees, with a division-board in the middle. 1. Can I work a rack of section on top, with excluder zinc between surplus chamber and brood-nest? and would the bees from both stocks work together without fighting? After the fruit blossoms are over I shall disconnect them. I have been a bee-keeper for two years, and not very successful so far, owing perhaps to scarcity of forage in my district, or not getting the bees strong enough in numbers for the early flow of honey from fruit trees.—EDW. J. BARTON, *Anerley, April* 4.

REPLY.—If the intention is to allow the two stocks of bees to work in one super common to both, a perforated division-board should be used, not a solid one as proposed. This is the principle of what is known as the Wells hive, seeing that progeny of both queens acquire the same scent, and in consequence the natural antagonism between bees of different colonies is removed. The main point to be considered is to provide sufficient frame space in the two compartments of the hive to allow of enlargement to nine or ten frames in each, as the queens require more combs for brood-raising.

[1451.]—*Suspected Queenlessness.* — I examined my two frame-hives to-day, and find six frames in each pretty thickly covered with bees. There is not much brood, however, and in No. 1 I noticed three or four queen-cells, but none in No. 2. I failed to find the queen in either, and wonder whether they are queenless. What brood there is, however, is not scattered about, as if the product of a fertile worker, nor do the cappings project much. If the queens are all right, and only escaped my observation, why are these queen-cells in one hive? If you think the hives queenless, what shall I do?—HERBERT E. CATER, *Torquay, April* 2.

REPLY.—If queen-cells are old ones, and show no signs of being enlarged, they mean nothing; but if no eggs are found, and the cells are of recent construction, the stock is most probably queenless, and the bees should be joined to the other stock.

SEASONABLE QUESTIONS.

ANSWERED BY G. M. DOOLITTLE.

POLLEN IN SECTIONS.

Question.—Why do bees store pollen in sections? I had one colony the past season store large quantities of pollen in the honey-boxes, while the other colonies stored very little, if any.

Answer.—The storing of pollen in the surplus apartment is largely brought about by the queen filling the brood-chambers so full of brood that there is not room enough for all of the needed pollen below. This is a thing that does not very often happen when a large hive is used; but with our small brood-chambers of the present day it is not at all unusual for this state of affairs to exist where no honey-board or queen-excluder is used. The queen-excluding honey-board, made of perforated zinc and wood, is a great help along this line, and I think it would well pay for using, on this account alone, where the brood-chamber used was not larger than one division of the Heddon hive. Then there is the break-joint honey-board, which is almost entire proof against the storing of pollen in the sections. Perhaps some of the younger readers of *Gleanings* do not know what a break-joint honey-board is. It is a honey-board so made that the openings from the brood-chamber to the surplus apartment come directly over the centre of the top-bar to each frame, instead of being over the passage-ways between the combs, as our honey-boards of the past were made. This causes the bees to come up over the top-bars to the frames to get into the sections, or gives a crooked passage-way, instead of the continuous passage-way of our fathers. Such a circuitous route causes the bees to think that the room above is not a part of the brood-chamber, so they do not store pollen in it, for pollen is, as a rule, stored close to the brood. For the same reason large hives give the same results, as in this case there is usually quite an amount of sealed honey between the brood in the hive below and the surplus arrangement above. However, it is claimed that bees will not work as well in boxes where they can store large quantities of honey below before they commence in the sections, so it is thought that a small brood-chamber is much more preferable, even if we do have to go to the trouble of making a special honey-board to keep the queen and pollen out of the sections.

WHY BEES STORE POLLEN.

Question.—Why is it that some colonies store more pollen than others? I found one or two colonies in mid-summer that had their combs half-full of pollen, while the others did not seem to have such an abundance.

Answer.—Pollen accumulates in the combs only as brood-rearing is not carried on rapidly enough to consume it as fast as it is brought in. For this reason a queenless colony will often have its combs half-filled with pollen, while one by its side having a prolific queen will have hardly any in its combs. During the latter part of the season more or less pollen is generally stored, for at this time the rearing of brood is drawing to a close, and Nature has so ordained that the bees should have some pollen in early spring before they can get any from the fields; but the prolific-

ness of the queen has more to do with it than anything else.

POLLEN AND PROPOLIS NOT THE SAME.

Question.—A man of some experience with bees told me that pollen and propolis were the same. Is this so?

Answer.—No! Their offices are very different, and the man who has any idea that the two are at all alike has had no experience along this line of bee-keeping, else he would know better. Propolis is a resinous substance gathered by the bees very largely from the buds of the balm of Gilead and other trees which secrete any substance of a salivy nature which can be worked in warm weather, but which is hard and brittle on the approach of winter. It is used to stop all cracks in the hive not large enough to admit a bee, and to smooth over all uneven surfaces about that part of the hive they come in contact with. It is as different from the farinaceous substance of pollen as glue is from flour, and could in no way be made to take the place of pollen in preparing the food for the larval bees, neither could pollen be made to take the place of propolis in stopping cracks or glazing the walls of the hive, for it would crumble and fall off as fast as the bees could put it on.

POLLEN A BEE-FOOD.

Question.—Is not pollen a bee-food? Why I ask this is, I have a neighbour keeping bees who says that the bees never eat pollen; but I think he is mistaken.

Answer.—Pollen, or bee-bread, is not a food for the mature bee to any great extent, but it is used largely in compounding the chyme, which is fed to the larva, or young bee, while in the larval state: hence, when the bees are breeding largely, as in June, large quantities of pollen are consumed. Pollen, honey, and water are taken into the stomach of the nurse-bee, and, by a process of partial digestion or secretion, formed into milk or chyme, which is the only food of the immature bee; and if from any reason the supply of honey entirely gives out at such times of prolific brood-rearing, the larvæ are sucked dry by the mature bees so they (the bees) need not perish; and if the famine still continues, the nurse-bees feed this chyme to the mature bees instead of the larvæ till all the pollen in the hive is used up—at least, this is as I believe it to be after very careful watching along these lines. At no other time have I ever known of mature bees eating pollen. I have starved several colonies in the fall when there was little or no brood, by various experiments, in trying to make old bees subsist on pollen, and never could see that they touched a particle of it.

HAS POLLEN OR PROPOLIS ANY DOMESTIC USE?

Question.—Can either pollen or propolis be put to any domestic use?

Answer.—I think not, although there has been some attempt made at using propolis for one of the ingredients in making salve. From last accounts the attempts resulted in partial failure, so that this has no market value, and no idea has ever been entertained, that I know of, by any one of making use of pollen in any form or under any circumstances. In queenless colonies it often collects in the combs so as to become almost a nuisance, and we have heard of calls for some plan to remove it without harming the combs. If either of these substances could be used in domestic life it would prove more or less of a bonanza to the apiarist; but I have no idea that anything of the kind will ever come to pass.—*Gleanings.*

Bee Shows to Come.

May 27 to June 1.—Bath and West of England Agricultural Society at St. Albans. Bees, hives, and honey. Thirteen classes and liberal prizes. ENTRIES CLOSE APRIL 8. For schedules apply Edwin H. Young, Secretary B.B.K.A., 12, Hanover-square, London, W.

June 9 to 12.—At Eastbourne, in connection with the Royal Counties Agricultural Society's Show.

June 22 to 26.—Royal Agricultural Society at Leicester. Schedules now ready. Entries close May 1. All letters relating to Bee Department of above Shows to be addressed to Edwin H. Young, Secretary B.B.K.A, 12, Hanover-square, London, W.

TRADE CATALOGUES RECEIVED.

W. P. Meadows, Syston and Leicester.—Mr. Meadows, whose annual catalogue is, as usual, among the first issued for 1896, this year contents himself with a re-issue of his large and comprehensive list of fifty-six pages, together with a supplement of special goods and novelties recently introduced by him. Mr. Meadows still maintains his high reputation for metal goods, as evidenced by his success as an exhibitor, and the number of prizes taken at leading shows. Another leading line of goods just introduced is the miniature greenhouse or garden frame which promises to be a great success.

T. B. Blow, Welwyn, Herts.—Mr. Blow's list is now enlarged to eighty-two pages, and is this year embellished with many new illustrations. The evident intention of the proprietor of the Welwyn Hive Factory is to keep pace with the times, every up-to-date item in bee goods being included in the list. We also note that a new departure has been made by the inclusion of greenhouses and

horticultural buildings, together with poultry houses of several designs, which are among the capital illustrations referred to.

David Raitt, Beecroft, Blairgowrie.—The business carried on by the trustees of the late Wm. Raitt, since the death of that gentleman, has now been taken over by Mr. Raitt's son, whose neatly got-up and well-illustrated list is now to hand. In addition to the specialty for which Beecroft has so long been favourably known, viz., high-class comb-foundation, Mr. Raitt has stocked a full line of bee goods of the best and newest construction.

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

FOX (Shrewsbury). — *Transferring Bees to Frame-hives.*—1. The insects received will not be allowed inside hives and need cause no alarm. Carbolic acid will destroy them. 2. The plan you propose will not work at all. If, as stated, it is not desired to transfer the combs from the skep, set the latter above the frame-hive, after fitting the frames with full sheets of foundation, and allow the bees to transfer themselves. This they will do in good time if the skep is now fairly strong. No excluder zinc must be put on between skep and frame-hive, but the junction should be packed warmly to conserve the warmth in the skep. Of course the entrance to the latter is stopped up and the bees compelled to pass down through the frame-hive in coming and going, using the ordinary entrance of the latter. 3. If food is short, stimulating is continued till honey can be had outside.

ONE IN DIFFICULTIES (St. David's). — *A Beginner's Queries.* — Before replying to queries we must impress upon you the need for acquiring a better grasp of the instructions given in "Modern Bee-keeping" than is implied by the questions put. For instance, you write asking if you must drive the bees, as stated on page 39, and into a section crate (as fig. 18, page 54), in order to secure success? Again, to ask, "must you have some artificial pollen to help the bees to build in the little sections?" betrays an entire want of knowledge of the contents of the book, and makes us despair of clearing the matter up in this column; for, however willing to render assistance, we cannot put together plainer instructions than are given in the book referred to. Have you no bee-keeping friend who would explain operations difficult for you to understand in the book? This would be more helpful than anything else. But in the meantime we may just say, in reply to Query No. 1, you must cut a hole in top of skep about 3 in. in diameter; and, when weather is warm, honey coming in, and bees show by their busily working that the hive is strong, set on a skep section-rack, as shown in fig. 18, page 54 of your book. Any of the dealers whose names appear in the advertising pages will supply the right thing, if told what is wanted. But you must attend to the instructions given on page 55 in working the sections.

SIDNEY SMITH (Wheldrake Rectory).—*Bee-plant.*—The specimen sent is an *Ulmus*, probably *Ulmus campestris*, but in the absence of young shoots it is impossible to say for certain. If our correspondent sends a shoot or twig of the tree when its leaves have developed it could be identified, but at the stage in which the specimen reached us both elm and beech are very similar.

E. F. T. (St. Mellion).—*Dead Brood in Comb.*—There is no disease in comb received. The dead brood is chilled. As to our opinion of the effect such "remedies" as you name on the spores of foul brood, we can add nothing to what appears in Mr. Cowan's paper on p. 84 of BEE JOURNAL for February 27 last.

J. DEAN (Hextable).—Comb is badly affected with foul brood—so bad that the best course is to burn combs, frames, and bees. It is useless attempting a cure in such cases.

THE HOLMS (Blantyre).—The bees sent lead us to think there has been some "robbing" about the hive, and the bees cast out are marauders killed by the rightful occupants.

Special Prepaid Advertisements.

Situations, Publications, Bee Plants, &c. — Up to Twelve words, Sixpence; for every additional Three words or under, One Penny.

FOR SALE.—Stocks, Nuclei, Queens, &c. Apply, FRANK REED, Portslade, Sussex. L 10

PURE Norfolk HONEY, 7d. per lb. or offers. Sample sent. Miss SAVORY, Sparham, Norwich. L 17.

STOCKS, Nuclei, Swarms, and Queens.—Address, Rev. C. BRERETON, Pulborough, Sussex.

SIX-FRAME STOCKS, superior strain of bees, 21s. JOHN WALTON, Weston, Leamington. L 18

WANTED at once, young ITALIAN DRONES. F. SLADEN, Ripple Court Apiary, near Dover. L 19

FOUR Strong Stocks, in round, well-made bar framed Hives, 30s. each, or 115s. lot. GRIMBLY, Minster, Ramsgate. L 16

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION.

The monthly meeting of the Council was held at 17, King William-street, Strand, W.C., on Friday, April 10. Present:—Mr. T. W. Cowan (in the chair), Rev. G. W. Bancks, Major Fair, Messrs. H. W. Brice, W. Broughton Carr, W. H. Harris, H. Jonas, J. H. New, E. D. Till, T. J. Weston, and the Secretary. Miss H. Dawe and Mr. J. M. Hooker attended as representatives of the Bristol and Kent Associations respectively. Letters were read from Sir T. D. Gibson Carmichael, Bart., M.P., and Mr. R. T. Andrews, apologising for non-attendance on account of indisposition.

The minutes of the previous meeting were read and confirmed.

Nine new members were elected as under:

Mr. Geo. W. Brown, 1, Sycamore Villas, New Malden.

Mr. Robert Dymond, Ferney House, Southgate, N.

Lieut. H. C. Hawker, Longparish, Hants.

Mr. Edward Mourant, Samares Manor, Jersey.

Surrey Beekeepers' Association, Mr. Chas. E. Cuthell, Chapel Croft, Dorking, secretary.

Mr. G. H. Varty, Burnaston, Etwall, near Derby.

Mr. Thos. Walker, jun., Brind Leys Farm, near Howden, Yorks.

Mr. Charles Whiting, Valley Apiary, Hundon, Clare, Suffolk.

Mr. Thos. Geo. Worsfold, Fair View, Bushey Grove Road, Watford.

The report of the Finance Committee, recommending payment of various accounts, was presented by the Chairman, and adopted by the meeting.

In presenting the Education Committee's report, Mr. Cowan stated that arrangements were in progress for the holding of examinations for third-class certificates as follows:—

Group 11 (Herts, Middlesex, and Essex), at St. Albans, on May 28; Group 12 (Surrey, Sussex, and Kent), at Eastbourne, on June 10; Group 1 (Notts, Derby, and Leicester), at Leicester, on June 23; and for first and second class certificates on May 8, at the Office of the Secretary, 12, Hanover-square, London, W. The Committee had also prepared a list of examiners for third-class certificates. The report was approved.

On behalf of the Exhibitions Committee, Mr. Till gave details of their work in regard to the approaching shows at St. Albans, Eastbourne, and Leicester. He was glad to be able to report that at the first-named place there was every prospect that the exhibition would be successful in point of entries, both in the appliance and honey sections. Since the last meeting of the Council schedules had been prepared for the Eastbourne and Dairy Shows, and had been approved by the Societies concerned. Several additional classes had been included for the Dairy Show, which, if properly supported, would materially assist in raising this popular department of the exhibition to its deserved prominence. It had been suggested that a class should be provided at the Manchester meeting of the Royal Agricultural Society in 1897 for "Honey Trophies," to be exhibited by affiliated County Associations, and this matter would be further considered by the Committee. The report was received.

Mr. Cowan stated that the proposed Bill for dealing with foul-brood had been drawn up, and was now before the Board of Agriculture for approval or otherwise.

Statistics, prepared by the Lancashire County Council, relating to grants made towards the promotion of bee-keeping, were placed before the meeting by the chairman, showing that of fifty-one County Councils in England, thirty-four had made grants; of twelve County Councils in Wales, two had made grants; of thirty-three County Councils in Scotland, three had made grants.

A vote of thanks was accorded to the Lancashire County Council for the report, and the meeting shortly afterwards terminated.

COMING SHOWS.

"ROYAL COUNTIES" AT EASTBOURNE, AND "ROYAL" AT LEICESTER.

Referring to the "Royal" Show at Leicester in June next, readers must not forget that entries close on Friday, May 1st, only a fortnight hence (see advertisement on back page of this issue). But for those who are not too hopeful of having surplus of this year ready for removal, there is the saving clause in the schedule which provides for return of entry fees in case the weather should be adverse to honey gathering in time for the show. This clause should do away with any indecision on the part of would-be exhibitors.

We are also pleased to announce that the date of closing entries for the "Royal Counties'" Show at Eastbourne has been extended until May 22, a concession which will no doubt be welcomed by southern bee-keepers in view of the wealth of fruit-bloom now just becoming available to the bees.

AUSTRALIAN HONEY.

As a further illustration of the unfortunate outcome of sending Australian honey to this country for sale on the open market, a press-cutting has just reached us, in which the *Melbourne Age* of February 12 last says:—"Messrs. Morgan Bros., of High-street and Glenferrie-road, send us some accounts concerning the fate of a case of honey which they

forwarded to England last year that are interesting, as showing the scant encouragement given to exporters. The honey, 72 lb. in weight, was placed in six dozen bottles that cost 9s. ; the box in which they were enclosed cost 4s. and the labels 2s. So that (taking the value of the product itself at 2¾d. per lb.) when the honey left Messrs. Morgan Brothers' hands its value was £1. 11s. 6d. The box was sent in April to Messrs. M'Meekin Bros. & Co., of Warrnambool, for trans-shipment to England, and these gentlemen in November reported to Messrs. Morgan Brothers that they held 2s. 9d. to the credit of that firm (M'Meekin Bros. & Co.). The account sales contained the following figures :—By proceeds sale of honey, 11s. 8d. ; debit to insurance, 3s. ; Melbourne railage, 3s. ; ocean freight, 1s. 7d. ; London commission charges, 6s. 10d. The last-named sum was made up of landing and warehouse charges, rent, &c., 3s. ; fire insurance, 1d. ; sale expenses, 2s. ; brokerage, 1s. ; commission, at 2½ per cent., 4d. The little commercial transaction of Morgan Bros. is not without a humorous side."

We rather fear that Messrs. Morgan Bros. will not readily perceive the humorous side of the above "little commercial transaction," but it gives a further confirmation of our contention that Australian honey is not suited to the British market. "Rather less than a halfpenny per pound," the net sum quoted in our pages as obtained for a ton of colonial honey sold a short time ago, was bad enough, but in the case reported above the honey realised two shillings and ninepence less than nothing !

BEES AND APPLE-BLOOM.

HOW BEES BECOME FRUIT-PROTECTORS.

Monsieur Fabius de Champville, in his new book on "How to Obtain Good Cider,"* has a chapter entitled "Nos alliés contre les parasites," in which the author concludes by urging the spread of bee-keeping in France. He says :—"I ought to mention equally as an ally in the defence of apple-trees one of the useful insects which, spite of its worth, has not the place in France that it ought to have—we speak of the bee. In fact, the bee, when in quest of its spoil, is one of the greatest destroyers of apple-blossom weevil (l'Anthonome). In gathering pollen . . . . they cause the egg, which the weevil has deposited on the fertilising pollen, to fall. Later, in opening the petals to seek their feast, they place the larva of the weevil in contact with the inclemencies of the atmosphere, and thus rudely arrest its development, causing it to perish."

In 1879, Le Frère Abel, so competent in such questions, wrote :—"This year, when the ravages of the apple-blossom weevil have been so deplorable in the Guerche de Bretagne (Ille-et-Vilaine), the apple-trees situated near hives promise a good harvest. One sees that the bee plays an important role of immense utility in defending our apple-trees — moreover, its estimable product is a great revenue without much expense, and one cannot advocate sufficiently the spreading of apiaries in the farms." Then alluding also to the bee being one of the best agencies for fertilising fruit-blossom, the author concludes by urging the importance of "keeping bees that the work of the orchard may be enlivened by the hum of these industrious labourers."

* "Comment s'obtient le Bon Cidre." Published in Paris : Société d'Éditions Scientifiques, 4, Rue Antonie Belbois.

HONEY IMPORTS.

The total value of honey imported into the United Kingdom during the month of March, 1896, was £2,638.—*From a return furnished to the* BRITISH BEE JOURNAL *by the Statistical Office, H.M. Customs.*

ABOUT OUR BEES.

BY HENRY W. BRICE.

XI.

FORMING NUCLEI.

This is an operation most useful in itself, but requiring careful consideration if it is to be carried out successfully. Beginners will, therefore, do well to leave it alone until such time as they have acquired a fairly good knowledge of the art of bee-keeping, and are certain of their ability to manipulate their charges not only with facility and confidence, but with entire freedom from mistakes in what is known as "management." All competent bee-keepers are now fully alive to the importance of having nothing but young queens in their apiaries. But for those who have only one or two queens to replace it is preferable, for economical and other reasons, to buy from a reliable source rather than break in upon the prosperity of a flourishing colony for the purpose of providing temporary quarters for new queens and breeding them at home. Another disadvantage under which the small apiarist suffers in our variable climate is the risk of his princesses being lost on their marital or mating flight. Considering, therefore, all the risks and uncertainties attendant on the rearing of good home-bred queens it is, as I have said, cheaper to buy. Where a large number of young queens are needed to replace old and worn-out ones the case is different, and it may be well worth all the thoughtfulness and skilful management we can bring to bear on the raising of home-bred queens. This means practically breaking up a colony or two after the honey season is passed for the purpose of forming nuclei in which young queens may be preserved until required. To carry out this phase of bee-keeping successfully every possible pains must be taken if

first-class queens are to be obtained; and the little disappointments which crop up at times on every hand must be borne with fortitude, so that if failure follows our best efforts we must bear it and "try again." By far the best time for queen-raising is during the natural swarming season, from May to the end of July. This holds good whatever method is adopted. So soon, therefore, as the main honey harvest has been gathered in, operations may commence. Have your queen-cells as nearly twelve days' old as possible; remove all supers from a very strong stock, and next day make an artificial swarm from it in the manner described in the last chapter (page 133). In twenty-four hours all the old bees will have joined the swarm, and the part of the stock to be divided will contain all young bees and brood. An examination of the combs will give an estimate as to how many nuclei the stock may with safety be divided into. To arrive at this number allow one good queen-cell (two if there are sufficient), one frame of brood, and two of food covered with bees to each intended nucleus. After making a selection of the queen-cells for each, place them between every alternate frame in the brood-nest.

The nucleus hives being already prepared for occupation, in twelve to fourteen hours afterwards make the division, and set the little colonies on their respective stands. It will be found that nearly all the bees will stay where placed. Do not be tempted to form more nuclei than the stock will safely make, because nothing is so unsatisfactory as a weak nucleus. Should there be more frames of brood than the single comb required for each nucleus, brush the bees into the stock to be divided, and give the brood back to the swarm previously made. A good strong stock should yield three serviceable nuclei (not more), if properly managed, besides the swarm.

I consider the above to be the best, and withal the surest, method of queen-raising in nuclei. Other plans there are in plenty, but all entail a deal of careful watching, and the need for considering many things, amongst which are stimulating the stock in order to be full of young bees and hatching brood ready, when the time comes, for forming nuclei. All this means trouble and anxiety for the bee-keeper, and adds to the disappointment if failure follows. Sometimes, I grant, when all the conditions are favourable, strong stocks worked up in this way may be divided into a number of moderate nuclei with ease, provided the bees are brought to a due sense of their loss by removal of the queen, and very young brood is removed twenty-four hours before the division is made. But to get queenless bees to stay on a new position in a strange hive some strong inducement must be given them. Torn abruptly from old associations and surroundings, bees will rather cast in their lot with the nearest prosperous colony than stay where we desire them on a new stand. Some strong inducement must, therefore, be given to bind them to the new locality, and nothing is so likely to afford this inducement as a laying queen. The next best thing—after the bees have shown their sense of loss by starting queen-cells—is to give them a ripe queen-cell just about to hatch, as a most powerful inducement towards the retention of bees in nucleus hives. Even old bees are chary of leaving a hive under these circumstances. On the other hand, a queen-cell not due to hatch for a week will often fail in alienating bees from old associations, even though the stock to which they return is motherless. Nucleus colonies should never consist of less than a frame containing both a young and hatching brood and two combs of food, all of which combs should be covered thickly with chiefly young bees. Many more bees must be given than are ultimately required, because some are bound to be lost, and can only be replaced by the bees of the continually hatching brood first given. The young larvæ will effectually attach all the nurse bees to the nucleus, and as young unflown bees will readily stay wherever put, it sometimes becomes necessary to brush off a few hundred of these from the combs of a strong stock in the event of the population of the nucleus getting too much reduced.

Always make up nuclei in the evening, as during the still hours of the night many recruits will have joined the ranks from the hatching brood given.

When only a single nucleus is required, make it as follows:—Take from a strong stock two frames of hatching brood (but not the queen) and one of food with the bees thereon, and place them in a nucleus hive about mid-day. Carry same quietly, without covering the frames down before moving, to the other end of the garden. Nearly all the old bees will fly back to the old stock. Then cover down warmly, close the entrance, and remove them indoors; keep in a warm, dark place for twenty-four hours. The bees in the nucleus are nearly all young ones, and at the end of the time mentioned, if the brood has been well selected, a nice little stock is obtained, ready to accept a queen or a queen-cell, and may be warranted to stop wherever placed.

If a strong stock is deprived of its queen and removed to a distance of, say two or three miles, it may be at once divided into several small stocks, as all the bees are in a strange locality, and will stay wherever placed, if a frame of brood is given them. A queen-cell may be given after the lapse of a few hours. I have carried ripe queen-cells, packed in wool under my vest, fourteen or fifteen miles, by rail and road, to such divided stocks, and had them all hatch successfully. When the queens of stocks divided in this way are mated and laying, the hive may be brought home again to be utilised as required. Small stocks may be made by reducing a strong lot of bees to the

condition of a swarm; then dividing the brood-combs into as many portions as stocks are wanted, and in the evening running in as many bees to each as will equalise them, the brood being placed in a *very warm* place in the meantime. I do not, however, recommend this process, as it entails a considerable loss of brood and bee-life, although it is fairly certain in its results. When a number of nuclei are required at once, and there are only a limited number of stocks from which to make them, there is no sure and simple way of making them. Some will go on right and succeed, others will fail, try as we may. Some will be troublesome and require constant care and attention for at least four or five days, others will get short of bees during the day, and require young bees added each evening until the stock is strong enough to keep going without outside help; and, as I have said above, a deal depends upon the condition of the stocks to be divided, and its previous careful preparation for the operations which follow. But, of course, like everything else, to carry out the making of nuclei in an efficient manner entails a lot of work undertaken on systematic lines, moreover, it requires the attention and skill of a practical bee-man to make the forming of nuclei uniformly successful.—*Thornton Heath.*

(*To be continued*).

ERRATUM.—On page 132, second column (31 lines from bottom), for "artificial" read *natural.*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department reports of Associations, Shows, Meetings, Echoes, Queries Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*" *(see 1st page of advertisements).*

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

MANIPULATING BEES.

DOES THE METHOD OF HANDLING CAUSE EXCITEMENT?

[2472.] I think we sometimes complain of the excitability of our bees, when in eight cases out of ten the bee-keeper's mode of manipulation is the cause of it. Had a different plan been adopted, there would have been no excitement among the bees. I am sure the smoker is used a great deal too much, and the bees unnecessarily frightened and excited thereby. On the 7th my wife and I manipulated twenty hives, without using a smoker, carbolic cloth, or anything to frighten the bees, and only three bees attempted to sting us. All the hives except two had wooden covers. The average time taken over each hive was six minutes, and most of the hives were full from end to end with bees. Our stocks have never before been so strong at this time of the year.

The 7th was a lovely day, which would partly account for the nice behaviour of our little friends.

I think the great point is to accustom the bees to gentle treatment, and then they go on with their work as if nothing unusual was taking place. A friendly relationship is thus established between the bees and their owner, which one hopes heredity will fix.

For two or three years I have never used a smoker except in driving bees, and it is a great comfort to be able to discard the smoker, which in my case often went out just when it was most required. I am also certain our bees have been far easier to manipulate since the smoker has been disused. If I want the bees out of the way when putting on supers or hive covers, I use a smoker with a sponge in it saturated with carbolic acid.—R. T. SHEA, *Southend, April 11th.*

[Our correspondent is undoubtedly right in contending that the method followed by the bee-keeper in manipulating has very much to do with the quietude or irascibility, as the case may be, of the bees dealt with. It is also certain that in too many instances far more smoke is used than needed. But it is equally true that either smoke or some other intimidant is absolutely indispensable in bee-work as a rule. We are quite in accord with our correspondent as to the folly of frightening and exciting the bees unnecessarily, and the value of accustoming them to gentle treatment. On some days—like the particular one referred to—hives may be examined and all sorts of operations carried out as stated; but a couple of days or so later the same stocks may be very difficult to do anything with in comfort without smoke and veil. It is, therefore, not quite good policy to lead readers to suppose that smoke and bee-veils may be dispensed with, and gentleness only relied on, because it would, we fear, in too many cases lead to regrettable mishaps.

To show the variation in methods and preferences, how many bee-keepers would give up his smoker, preferring to rely on the fumes of a carbolised sponge? And how easy it is—when one knows how—to keep a good smoker alight for three or four hours at a stretch! In point of fact each should adopt and use what he best succeeds with; and, as a general rule, the ordinary bee-keeper should be advised to have his smoker (or his carbolic cloth if he prefers it), and his bee-veil too, handy and ready for use if wanted in the performance of all work in the apiary. This seen to, our

correspondent's method of management is in every way admirable and worthy of being followed.—EDS.]

BEES REFUSING COMB-FOUNDATION.

FLAT-BOTTOMED OR NATURAL-BASED, WHICH?

[2473.] As this matter appears to receive prominence very often of late in both the bee press and in conversation amongst bee-keepers, I should like to state my views on the subject, and to draw your attention to a personal experience of my own. During the whole of last season I was particularly struck with the fact that my bees persistently refused to start work in the supers on some sections which were fitted with what at that time appeared to my mind super-foundation in perfection. There was no question as to whether my bees were in the proper condition for supering. Sections there were in that very super, full, yea, full to overflowing, and these were the outside sections; my bees actually filled the outside sections in the super and left severely alone the sections I in my wisdom (?) had ordained they should tackle first. How was this? The foundation was manufactured by a dealer beyond reproach, and even had that aroma which, as you very neatly put it in "Useful Hints" last week, "will strike any one as sure to be grateful to the bees." The question was constantly in my mind, why didn't the bees "go for" that foundation? Now, sirs, here, for me at all events, is the answer: That beautiful foundation which the bees wouldn't "have" at any price was flat-bottomed, while the filled sections were in every instance started from natural based foundation, and to my mind that was the secret. At the commencement of the season I had recommended the flat-bottomed foundation for sections, in fact, had ordered supplies of it for some of my friends, but not in a single instance would the bees touch that foundation, except for the purpose of tearing it down to make way for their own natural comb.

I send this purely as a suggestion, and would not for one moment force my opinions on gentlemen who must literally have forgotten more about bees than I shall ever know; but to my mind the evidence was conclusive: the bees preferred the natural base to the flat-bottom, and I should be delighted to have the opinion of any of your many able correspondents.—T. F. HARRISON, Asst. Local Hon. Sec., Lancs. and Ches. B.K.A., *Northenden, Cheshire.*

[Flat-bottomed—known as "Van Deusen"—foundation has been, and is, so frequently accepted and worked out by bees, both in surplus-chambers and in brood-nests, that we think there must be some other reason than the one given by our correspondent for the refusal in his case. Personally, we never found bees object to the flat-bottomed make, while many are known to prefer it. Perhaps some corroboration, one way or the other, will follow from readers who have had experience. —EDS.]

HONEY AND ITS USES.

[2474.] I read in Mr. Bancks' pamphlet on honey and its uses as follows:—"Honey is especially recommended as likely to be beneficial in cases of dyspepsia, rheumatism, asthma," &c. And it is said "to have been recently often used as a substitute for cod liver oil with satisfactory results." The reading of this decided me to keep bees—having no objections to honey—and being (I am told) predisposed to rheumatism.

Some time ago I was told to abstain from sugar, preserves, &c. Not very difficult, as long as I might put the honey jar in place of the sugar basin. Now I find the objection to the latter extends to the former. In my ignorance I thought they were widely different things. May I ask the experience of some of your readers who have made a liberal personal use of the honey their bees have gathered?—W. C. H., *South Devon.*

BEE-KEEPING AND BEE-KEEPERS.

The second lecture under the auspices of the local Technical Instruction Committee and the Lancashire and Cheshire Bee-keepers' Association was given in the National Schools, Chorlton-cum-Hardy, Mr. Councillor Norquoy presiding. The Chairman said that, although not a bee-keeper, as a member of the Instruction Committee it was a subject he was thoroughly in sympathy with. He thought the pursuit of bee-keeping ought to be taken up by the people who had gardens, and no doubt with Mr. Taylor (local hon. sec.) and the expert of the Lancashire and Cheshire Bee-keepers' Association they would make it a success. Until a few weeks ago he knew very little of the matter, technically speaking, but an interview with Mr. Taylor and a visit to his apiary at Fallowfield had aroused in him so much interest, and he had gained so much information, that he was desirous of learning more. He then called on Dr. Jones to deliver what he felt sure would be a most interesting and instructive lecture.

Dr. Jones pointed out that from bees a greater pecuniary return could be obtained than from any other kind of live stock—whether it was from pigs, poultry, rabbits—and with far less outlay of capital and labour. As to pigs and poultry, day after day, morning and night, they had to be fed and attended to, and their homes cleansed, whereas with bees—with the exception of a little time in spring and autumn—they required, so to speak, no attention whatever; whilst in winter, from

October to February they were best left entirely alone. The local hon. sec. Mr. Taylor, of Fallowfield, had made his bees profitable, apart from the honey season, and if he could do it, they who were more suitably situated, ought to succeed. Taking one year with another, from 20s. to 30s. per hive profit could be made annually. Probably Mr. Taylor, if he spoke, would detail his experience on that point. Then there was a fascination about bee-keeping that any one once thoroughly interested in them never lost, but, on the contrary, the enthusiasm increased the older one grew. The doctor then, from the models he had on the table, explained the mechanism and manipulation of the modern bar-framed hive, and pointed out its advantages over the old straw skep. The inhabitants were also described and their functions pointed out.

Mr. F. H. Taylor, local hon. secretary, in proposing a vote of thanks to the lecturer alluded to the profit that might be made, and gave some very interesting figures. In 1893, from one hive he obtained three swarms, together with honey "takings" from the lot over sixty pounds in weight. This represented a money profit of nearly £5 from one hive. In 1894, from four hives he increased, by natural and artificial swarming, to seven hives, and obtained 225 lb. of honey, and this though he had lost three swarms. But an analysis of his takings for that year was still more remarkable. From one hive he obtained a swarm which produced 28½ lb. of honey, and sent off a "virgin swarm" (which was lost through his absence), and the old stock produced 82 lb. of honey. Another hive yielded an artificial swarm and fifty-seven complete sections and 15 lb. of extracted honey; in each case the profit being nearly £5 per hive. Taking last year—the most inclement he had experienced since he started—his hives yielded him a profit of about £1 each. In conclusion, he announced that Dr. Jones would give an open-air lecture at his apiary, Birch Fold Cottage, Old Hall-lane, Fallowfield, early in May, to which he invited any of those present to come and bring their friends, and if they would send their names and addresses he would gladly let them know the date. He also expressed himself willing at any time to help beginners, especially cottagers and farm labourers. Dr. Jones briefly thanked the meeting. The proceedings terminated with the usual votes of thanks, and at the close several interesting conversations took place, most present asking questions of the lecturer and local hon. sec.

NUMBERING HIVES.

THE USES OF A RECORD-BOOK FOR HIVES.

Suppose I met a man while down street to-day whose name I did not know, and wanted to tell Dr. Miller, when I came home, who it was I had seen; I should most likely begin to describe him, tell whether he was tall or short, fat or thin, dark or light, and how he was dressed. If there was any peculiarity about him I should mention it; and after I'd been to all that trouble he might not be able to tell who he was. Now, if I had known his name was John Smith, and there was only one John Smith in the place, I need only have said, "I met John Smith to-day," and he would have known immediately whom I meant. Just think how much time and trouble I might have been saved if I had only known his name. Now just imagine what a muddle we should be in, most of the time, if people were without names.

Now, it seems to me just about as necessary to number or name colonies of bees as it is to name people. If I had to stop and describe each colony of bees by some peculiarity of hive or location every time I wanted to refer to it, instead of saying No. 12 or No. 9, I believe I should get discouraged, and just give up. It seems to me a bee-keeper's time is too valuable to be wasted in that way.

For instance, suppose Dr. Miller told me, "Get a frame of brood and bees from No. 2 and give it to 49," it wouldn't take him very long to tell me, nor me very long to do it. But, oh dear me! suppose our colonies were not numbered, and he had to stop to describe them. I might not understand perfectly, and get the wrong colony, and what a muddle it would be. Then think of similar orders many times a day. I don't believe I'd want to work in the apiary very long.

It seems to me pretty clear, if two persons are at work in the same apiary, and the colonies are to be talked about, that they need names of some kind, and I don't know of anything more convenient for names than numbers. Now, how would it be if only one person were at work in the apiary? Let us suppose he's at work at No. 49, and wants to get a frame of brood and bees from No. 2. Unless he marks No. 49 in some way when he goes to No. 2, he is liable to make a mistake and get the wrong colony when he comes back.

But if there were no other reason for it, I should want hives numbered in order that a record might be kept. You know when children dispute with regard to their ages they are always referred to the family Bible. Well, when we want to be sure of our queen's ages we refer to the record-book.

Suppose I go to a colony and find that it is queenless. Is the record-book now of any use to me? Of course it is. I can take the book and look and see if there is any colony I can go to for queen-cells, tell how ripe they are, tell whether it's a colony I want to breed from, whether it's gentle or cross, whether they are good workers or not; in fact, tell all about them.

With a record-book you can sit down and map out your day's work, and know just what

you're going to do beforehand. In fact, I don't see how any one can get along without one. If we should forget ours when we go to the out-apiaries we should have to go back after it, and it would be a difficult thing to keep a record-book without having your colonies numbered.—EMMA WILSON, in *Gleanings*.

[I think we shall all have to accept this fact, that, if a record-book is used, hive-numbering is a necessity.

Yes, it is indeed true that the book enables one to plan out the work in the apiary beforehand, and while at work in the yard it may save many steps. Suppose I want a certain kind of queen with which to fill an order. Instead of walking from one hive to another, inspecting the records on the hives, I could *sit in the shade* and turn the *leaves* over; and when the desired queen was found, or queen-cells of the right age, we will say, I go direct to the hive bearing the number designated. And then, again, it is interesting to go over the record-book quietly in the house. Sometimes we would find something seriously needing attention; and, again, we run across some interesting facts, as shown by the record routine work. This was forcibly brought to my mind when Dr. Miller read over to me page after page of his record-book one evening at his house.—ED., *Gleanings*.]

Queries and Replies.

[1452.] *Pollen-choked Combs.* — May I kindly beg the favour of information through the columns of the B.B.J. respecting the accompanying piece of comb? Last week another bee-keeper and myself examined my stocks and found two hives with a great deal of comb similar to piece forwarded—there was no brood in them—and the bees were very weak, so we came to the conclusion that the queens were dead in both hives. We are of opinion that it is the result of foul brood. Are we right? If not foul brood, what is it? Would it be safe and wise to give the combs to other or new stocks, as a good many have a large quantity of sealed honey? Thanking you in anticipation of your reply in the valuable B.B.J.—F. S., *West Norfolk, King's Lynn, April* 13.

REPLY.—Sample of comb received is completely choked up with nothing worse than wholesome pollen. There is no trace of foul brood, but combs thus occupied are of no more use for egg laying than so many pieces of wood, and the absence of empty cells may account for the hives being weak in bees. In districts where pollen is plentiful such combs are a nuisance and should be destroyed by burning.

[1453.] *Getting Rid of Pollen in Rendering Wax.*—1. I have been melting down some old combs and under the resulting layers of wax have found a large residue of the substance enclosed. Will you kindly tell me what it is, and whether it can be employed for any purpose? 2. Thanks for answering my question about suspected queenlessness, on p. 148 of last issue. I examined the hives again last week, and in each case found the queen in the first comb lifted out, though on two previous occasions a most diligent search had failed to reveal her. The bees are now carrying in quantities of pollen, but I was surprised to see that they almost entirely neglected a large pear tree trained against a south wall, covered with blossom, and went for their supplies to some old cabbage plants which have run to seed, and are now leaving a large quantity of small yellow blossom. Why this preference? —"LITTLE BILLIE," *Torquay, April* 12.

REPLY.—1. The "residue" forwarded consists almost wholly of pollen, which must, of course, have been in the combs before melting. There is not sufficient wax left in the residue to make it worth while melting again, while if offered to the bees in an open dish outside they would no doubt visit the place, attracted by the odour, but no part of the boiled pollen would be used again by them as larval food—so it is best to burn what remains. 2. The bees' preference for the bloom of cabbage plants grown for seed, or that of old plants allowed to flower in spring, is well known, and we do not wonder at them discarding the pear-bloom for that of the cabbage.

[1454.] *Working Skeps above Frame Hives.* —Being a beginner in bee-keeping, I should like a little advice regarding an idea that came to me. I have a skep of Italian bees strong and healthy, which I have placed on the top of a frame-hive fitted with ten frames of foundation, which the bees have taken to nicely. Now, it occurred to me when the honey flow commences it will be necessary to take the skep away, making in reality two hives, as you said in last issue but one. But instead of entirely removing the skep, couldn't it be raised, putting excluder zinc over the body-box, then supers for honey (shallow frames say), two tiers; and then another zinc excluder, the skep resting on that? Of course, they would become two distinct hives, but the idea came to me that it would save a lot of time instead of driving from the skep, &c. The drawback to me seems the distance the bees will have to travel in the hive. I shall be glad of your advice, or if you can make it a little plainer and insert it in your next issue, if there is room, I might get the advice of some one who has tried it.—F. POTTER RUNTON, *April* 13.

REPLY.—We have in vain searched our "last issue but one" in the endeavour to find out what is referred to above. But when bees have transferred the brood-nest from a skep into a frame-hive below, excluder zinc must not be placed between the two unless it is

quite certain that the queen is on the lower frames and also that there is no drone-brood in the skep above. If these points are carefully attended to and ensured, there is no need for more than one sheet of excluder (set above brood-frames). The skep may then be raised as often as required, for the purpose of adding surplus-chambers below it. Take no notice of the distance the bees have to travel.

Echoes from the Hives.

Hathersage, near Sheffield, March 8.—My bees are doing wonderfully well. I consider they are at least a month in advance of previous years. I have certainly stimulated them with pea-flour, soft candy, and syrup, but the open weather has been all in favour of early work with strong stocks. Possibly the fact that I am close to the moors may account for the statement that the bees have no difficulty in securing a plentiful supply of winter stores from the heather, after giving me an excellent yield of that as well as clover honey. —L. Taylor.

DRAWN-OUT COMBS FOR SECTIONS.

THEIR ADVANTAGES; AND HOW TO UTILISE UNFINISHED SECTIONS.

Dr. A. T. Peete, of Branchville, S. C., in a private letter, says:

"There is one point I wish you would explain for me, either personally or in the journal. I see the advantage of sections already drawn out, especially in poor seasons. We can easily get such here in our long summers, the main honey-flow being over by June 10. But your sections go on the hive twice or three times; are extracted once, cleaned by the bees once, and then have the combs partly melted in the leveller. *What can the wood of the section look like, after all that?* Have you no propolis, or do you have wide frames which keep everything clean? Or have you a way of cleaning the sections? I am afraid mine would look as clean as very old nest-eggs. Some light on this subject would greatly oblige me."

The doctor's way of asking questions makes it look as if the drawn-out combs involved a formidable amount of work. In this he is mistaken; for the sections are not returned to the hive "three or four times," as he seems to suppose. I will try to make the matter plain by again stating just how I work to get the main part of these drawn (or partly drawn) combs.

Before we began the use of drawn-out combs we were compelled to restrict the room in the surplus apartment of strong colonies, so there would not be a large lot of unfinished sections at the end of the surplus-honey season, for we then regarded unfinished sections (as they truly were) as a great misfortune to the comb-honey producer. Curtailing the section room near the end of the basswood season often resulted in renewed swarming, which is at that time a great loss; but if we continued to give unrestricted room at that time there were sure to be thousands of partly-filled sections of white honey. I tried many ways to utilise such sections the next season, but without profitable results. With all our care, the honey in the uncapped cells would be more or less candied, and, when returned and finished the next season, the sections never would be in even second-class condition, and were prone to ferment and become damp and dauby.

In our locality there was nearly always a good fall flow of dark honey; and if the partly filled sections of white honey could be completed from fall flowers, in my market they would be rated below well-finished sections of entirely dark honey. These difficulties led to the experiments that perfected the "Handy" comb-leveller, which with us turned misfortune into fortune.

Basswood is here the last of the white honey for each season, as a rule. Now, we pile on unlimited supers of sections until the end of the basswood flow, and not one colony in fifty has the swarming passion renewed, but they go on storing surplus to the end. At the end of basswood the colonies thus supplied with room will have far more honey in the supers than they would if they had been *restricted* for room; and there will be more *finished* honey than in colonies with limited surplus-room; and the large quantity of unfinished sections is, if rightly used, the best capital ever owned by a comb-honey producer, for I can extract the unfinished sections, and sell the honey to my customers for 12½ cents per pound more easily than I can sell gilt-edged combs for 15 cents; and I can use the empty combs to *double* my crop of *white* honey next season. Mr. Van Deusen tried to convince me that bees would finish foundation in less time than finished combs; but after four years of practical results I know he is incorrect; for in supers with one half finished combs, and these in the outside of the supers, and the centre filled with sections in which full sheets of Van Deusen and other makes of first-class foundation were used every season, the *drawn-out combs* were all *filled and sealed*, while the foundation in the centre (where the bees usually finish first) was left *untouched*.

Now I will try to answer pointedly Dr. Peete's questions. You see, doctor, the sections which I use for extracting and using again were got from the supers I must necessarily use in saving the honey crop, and not only without extra work or loss, but with an actual saving in both, for we avoided the swarming trouble, and did not curtail, but *increased*, the general surplus crop, and even the crop of *finished comb honey*, so there was no

waste of work here. After the honey is extracted from the sections they are returned to the supers, and on a warm afternoon are all set out at once in the open air; and by dark every section will be cleaned of every particle of honey by the bees ready for the comb-leveller. Two hours' work will accomplish all the work of having thousands of combs cleaned; but the leveller must be used on every comb. Surely that will be a big task. No: it is but little more work than to *properly* fill sections with full sheets of foundation, especially where two pieces of foundation are used in each section; and the comb-honey producer who does not use two pieces has not yet learned his trade; so there is but little, if any, extra work or loss in levelling or using the drawn-out combs again.

But "what does the wood in the sections look like after all this?" When we first began using drawn-out combs we scraped them before returning them to the super; but now we never scrape such sections until they are filled with honey again, and are ready to go into shipping-cases. We scrape the top and bottoms of all our finished supers of comb honey. Before sections are removed therefrom they are all wedged up tight in the supers; and, the work being *accurately* done, the tops and bottoms are nearly as smooth and level as a board. We set them on end on a table; sit down in front of them, and with a scraper made of a piece of old saw cut to a proper shape, and sharpened so it will cut like a smoothing-plane, we quickly make the sections so new-looking and clean that we have never heard a word of complaint from the most fastidious customer; so there is no bugbear of soiled sections with us. By the way, I clean all the supers of sections, however made, in the way stated.

As to the doctor's inquiry as to whether we have propolis here, I would say that, so far as we know, it is as plentiful here as elsewhere; but we have far less of it than most others. I remember that, at the hotel in Madison, Wis., we explained our way of preventing propolis and burr-combs to two distinguished bee-men (A. I. Root and C. C. Miller), and they said they wished it was true elsewhere than at Forestville, Minn. Our way is to have all bee-spaces kept very close to and not above $\frac{1}{4}$ in., to prevent burr combs, and to have everything about the hives where the bees have to travel made very smooth. For this purpose we now paint the inside of our hives, and have them, as well as the frames, supers, sections, and every part the bees must walk over, very smooth. And now, friends, this does lessen the evil of burr-combs and propolis, not only at Forestville, but everywhere that bees work. A rough fuzzy board is about the same to a bee as a piece of rough boggy brush land would be to a labouring man to travel through, and the first thing the sensible bees do is to make the ways they must constantly travel as smooth as possible. This they do by gnawing, and varnishing with propolis, and I am now certain that all frames should be very smooth, and may be dipped into proper paint with profit, and if only one side of the hives is painted, the inside should be preferred, as it keeps the wood from being soaked with water in winter, and injuring the colony's health and causing the wood to warp and check. Warped covers have never troubled me; but they are carefully made, and both sides well painted.

I have never used wide frames in connection with drawn-out combs; but I have invented a new super composed of peculiar wide frames in connection with my slotted and cleated separators, without any section case, that is not only cheap and handy, but keeps all sides of the sections entirely clean, and the readers of *Gleanings* shall know all about it soon.

In closing I will admonish those keeping sections over for future use to pile up the supers and cover from the light.

I hope I have made the method of profitably using drawn combs plain.—B. TAYLOR, in *Gleanings*.

[This is indeed an important question, and I believe our friend Taylor has hit upon the proper solution of that problem of unfinished sections. At the convention in Chicago one or two reported very favourably regarding the Taylor method of levelling down the combs; and I was satisfied that the comb-leveller was a good thing, and a very important adjunct to the apiary. I should like to hear from our readers who have tested the Taylor comb-leveller; and even if it does give our old friend a little free advertising it is all right. A good thing should occasionally be pushed along, and perhaps this is one of them.—ED. *Gleanings*.]

BOIL IT DOWN.

Whatever you have to say, my friend—
  Whether witty, or grave, or gay—
Condense as much as ever you can,
  And say in the readiest way;
And whether you write on rural affairs,
  Or particular things in town,
Just a word of friendly advice—Boil it down.

For if you go spluttering over a page,
  When a couple of lines would do,
Your butter is spread so much, you see,
  That the bread looks plainly through.
So when you have a story to tell,
  And would like a little renown,
To make quite sure of your wish, my friend—
    Boil it down.

When writing an article for the Press,
  Whether prose or verse, just try
To utter your thoughts in the fewest words,
  And let it be crisp and dry;

And when it is finished, and you suppose
It is done exactly brown,
Just look it over again, and then—Boil it down.

For editors do not like to print
An article lazily long,
And the general reader does not care
For a couple of yards of song.
So gather your wits in the smallest space,
If you'd win the author's crown.
And every time you write, my friend—Boil it down. —*Printers' Circular.*

Bee Shows to Come.

May 27 to June 1.—Bath and West of England Agricultural Society at St. Albans. Bees, hives, and honey. Thirteen classes and liberal prizes. ENTRIES CLOSE APRIL 8. For schedules apply Edwin H. Young, Secretary B.B.K.A., 12, Hanover-square, London, W.

June 9 to 12.—At Eastbourne, in connection with the Royal Counties Agricultural Society's Show. Entries close May 22.

June 22 to 26.—Royal Agricultural Society at Leicester. Schedules now ready. Entries close May 1. All letters relating to Bee Department of above Shows to be addressed to Edwin H. Young, Secretary B.B.K.A., 12, Hanover-square, London, W.

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

A LOVER OF BEES.—*Re-queening and forming Nuclei.*—Our correspondent will find all the information he asks for in Mr. Brice's article in this issue, page 152.

JOHN POLCHAMPTON (Frome).—*Red Spiders in Hives.*—The spider will do no harm in the hive, and will not be tolerated there when bees get stronger. It spins no web as ordinary spiders do, being a sort of scavenger which lives on offal of any kind.

JOHN KINNINGS (Craven Arms).—*Frame-Hives without Frames.*—You will have to give us fuller particulars as to your proposal to "take out all old combs," &c., to prevent swarming. With only the meagre details given to guide us your plan seems impracticable, and we cannot advise regarding it without further information.

Special Prepaid Advertisements.

Situations, Publications, Bee Plants, &c. — Up to Twelve words, Sixpence; for every additional Three words or under, One Penny.

STOCKS, Nuclei, Swarms, and Queens.—Address, Rev. C. BREREton, Pulborough, Sussex.

FOR HONEYCOMB DESIGNS apply C. COX, Brampton, Northampton.

FOR SALE, 2 cwt. SUPER HONEY (good pale). Sample 7 lb. LING, Shady Camp, Cambs. L 29

FINEST EXTRACTED HONEY, in ½ cwts. 7d. per lb. Tins free. Sample 2d. Deposit. DUTTON, Terling, Witham, Essex. L 28

1895 QUEEN WANTED at once. Price and particulars to HOPKINS, Greenhill, Bromsgrove. L 26

BLOW'S little wonder HONEY EXTRACTOR. Exchange for good sections. DAVID HALE, The Oaks, Grayshott, Hants. L 27

GUARANTEED PURE ENGLISH HONEY. Best quality in 30 lb. tins. 7 lb. tins free. TWINN, Apiary House, Ridgwell, Halstead, Essex.

SECTION RACKS, to hold 21 1-lb. Sections, with tin dividers. Sample sent post-free, 2s. 6d. W. MILNE, Russell-street, West Hartlepool. L 34

EXCHANGE 13 ROLLER PIGEONS for Bees or Appliances. T. BARBER, 222, Wath-road, Mexboro', near Rotherham. L 33

FOUR Strong Stocks, in sound, well-made bar framed Hives, 30s. each, or 115s. lot. GRIMBLY, Minster, Ramsgate. L 16

WANTED, strong healthy STOCKS, on standard frames, without hives preferred. Lowest price to W. HUTCHINSON, King-street, Leek. L 30

SKEPS of BEES (foul brood unknown), 15s. each, packed and put on rail. G. KNOWLES, Newnham, Ely, Cambs. L 8

BEES! BEES!! BEES!!! PLANTS! PLANTS!! PLANTS!!! Canadian Balsam, the noted Bee-Plant. 25 post free, 1s. 3d. Post Office, Flixborough, via Doncaster. L 37

NUCLEUS, 10s. 6d. Five-framed STOCKS, 20s. Address.—FRANK REED, Portslade, Sussex. L 38

CLEARANCE SALE.—"Bee-Keepers' Text Book," by A. J. King, 2s. 3d., usual price 4s.; "The Hive and Honey Bee," by Rev. L. L. Langstroth, 5s., usual price 8s.; "Quinby's New Bee-Keeping," 3s. 6d., usual price 6s.; "The Bee-Keepers' Guide," by Professor A. J. Cook, 3s., usual price 5s.; "Bee-Keeping, Plain and Practical," by Alfred Rusbridge, 1s., usual price 1s. 6d.; "British Bee-Keepers' Guide Book," by T. W. Cowan, 1s. 3d., usual price 2s. 6d.; "The New Method of Queen-Rearing," by H. Alby, 2s. 6d., usual price 4s.; Foundation Fixers for fastening Foundation in Sections, 7d. each, 6s. per doz., usual price 1s. 6d. each; 2 doz. Bingham Honey Knives, 1s. 9d. each, usual price 4s. 6d. each. Carriage paid to any part. Two "Little Wonder" Extractors, 5s. each, usual price 12s. Carriage forward. W. LEE, 71, Hurdsfield-road, Macclesfield. L 39

Editorial, Notices, &c.

COUNTY ASSOCIATIONS
AND DEALING WITH FOUL BROOD.

The season is now at hand when bee-keepers who have reason to suspect the existence of foul brood in their hives will watch with some anxiety the combs of hatching brood for the signs of disease too well known to be easily mistaken. It is a curious but indisputable fact that, as regularly in each year as the month of May comes round, so regularly does this bee-pest make its presence felt in an increased degree; and although one would gladly dispense with its periodical prominence in our pages at this season, there seems to be no help for it. We must, therefore, keep on pegging away at the unsavoury subject until foul brood is, as nearly as can be, banished from our midst.

But it is not difficult to understand why, of all months in the year, May is the one in which the disease develops in so palpable a form that only the most inexperienced or careless bee-keeper can overlook or mistake it. The central combs are rapidly filling with brood in all stages of metamorphosis from the tiny larvæ just hatched to the fully-developed insect, and this affords the opportunity of comparing, side by side, unsealed larvæ of all sizes in the crescent-shaped pearly plumpness of health, with those already bearing the appearance of flabby, shapeless bags of pale-yellow matter which so surely betokens bacillus alvei and death! In the same way, the convex cappings of living, healthy, sealed brood are seen contiguous to the flatter and darker-coloured coverings of brood which has already died of disease in the cell; so that the bee-keeper must be indeed blind who fails altogether to notice the symptoms brought directly under his eyes (and nose, too, at times). There is also the fact that if colonies of bees fail to make perceptible and continuous headway in May, there must be something wrong in the hive; and if the queen be at all prolific—with sufficient bees to induce egg-laying—the quantity of dead brood in a diseased hive increases enormously during the month, causing even the most casual inspection of the combs to reveal the mischief being wrought. All this tends—as we have said—to bring foul brood into prominence at this season, and we notice with unmixed pleasure the prompt action resolved upon—in consequence of what is termed an "Outbreak of foul brood"—by a county association, whose printed circular has been kindly forwarded to us by the hon. secretary for use if thought advisable. We also regard it as a healthy sign that no special request was made for us to suppress the name of the association referred to—and in doing so we have merely exercised our own discretion—because there is a tendency to minimise, indeed, we may say in some quarters to conceal, the prevalence of foul brood. Why, it is hard to say, but—were it not for the serious consequences involved—we should at times be amused at the easy complacency with which some counties are reported by their experts to be "almost free from foul brood," in the light of reliable information to the contrary now in our possession, but regarded, of course, as strictly private.

There are, we admit, sound reasons for avoiding a scare, or, indeed, anything tending to cause the whole bee trade of a county to be damaged or undeservedly crippled by reckless statements: but it is easy to err on the other side, and, by making light of the evil, to throw hindrances in the way of any honest attempt on the part of county associations to grapple with so complete a bar to success in the pursuit as the one now being dealt with. We therefore allow the circular mentioned to speak for itself, and commend the association concerned for the praiseworthy vigour and thoroughness with which the work is apparently intended to be carried out. It is to be hoped that the members addressed will heartily co-operate with the committee in supplying the needed information; which will not only be most advantageous in their own county, but afford valuable material for strengthening the hands of those who are now endeavouring to obtain compulsory powers for dealing with foul brood. Nothing will more conclusively prove to the Board of Agriculture how pressing is the need for legislation than to find that the very steps the B.B.K.A. propose to take are

actually being put in force by Bee Associations, assisted by funds at the disposal of County Councils, as stated below.

The first circular is apparently intended for distribution to all members of the association, and reads as under :—

——— BEE-KEEPERS' ASSOCIATION.

April, 1896.

Foul Brood Outbreak.

DEAR SIR,—This disease is now reported from almost every side of the county. In —— ten out of seventeen bee-keepers are affected, and nearly half the stocks are diseased.

The committee have resolved to take special measures to cope with this alarming outbreak, as every diseased hive becomes a centre of infection.

The subjoined advertisement, inserted in the local papers, explains the procedure.

TO BEE-KEEPERS.

[*Advt.*]

Outbreak of Foul Brood.

In consequence of the alarming increase amongst bees of this very contagious disease, the ——— Bee-Keepers' Association wish to send their expert to all infected districts to examine hives and give information concerning remedies. *Expenses are defrayed from County Council grant.*

Any bee-keeper suspecting disease among his own or neighbours' bees, or having bees die without knowing the cause, is requested to communicate at once with the undersigned. A hive affected with this disease is a source of danger to all hives within a mile.

(Here follow name and address of Hon. Secretary.)

Along with above the following circular was sent :—

——— BEE-KEEPERS' ASSOCIATION.

Special Notices.

"There will be no spring tour this year ; an autumn tour will take its place.

FOUL BROOD.

"This contagious disease continues to spread in the county, and the committee hope that members will give every assistance in the task of detecting and (if possible) stamping it out. A stock dying of foul brood is usually robbed, and the disease carried to neighbouring hives. Any cases of suspicion, either with members or non-members, should be reported to the secretary, who is empowered to direct the expert to proceed to the spot to investigate the matter, and to do his best to induce the owner to adopt efficient remedies. In case of doubt a piece of brood comb should be sent to the secretary."

"This foul brood investigation will take the place of the usual spring tour. No district will be visited without an application or report of suspicious cases ; and although the expert takes every precaution to disinfect himself, it is not advisable for him to do the usual spring tour work on this tour of inspection. You are earnestly requested to report any case of suspicion in your district, and to aid the committee in this matter. The greatest danger is apathy and reluctance to allow examination of stocks. In bad cases, stocks should be destroyed by fire (combs and frames), and the body of hive disinfected. The signs of the disease are given in the April *Record*.

"No stocks should be sold or purchased until it is ascertained that their district is free from foul brood. Natural swarms are usually healthy, but in purchasing such stipulate that they are not artificial ones. In this work no distinction is made between members and non-members ; it is imperative to deal with any and every case of foul brood.

"Yours truly, ———, *Hon. Sec.*"

April, 1896.

It affords us much pleasure to add that another important county association has to our knowledge recently engaged the services of a capable expert—known to be "down upon" foul brood wherever found, and who spares no pains in assisting those troubled with it—who is now labouring hard in the effort to search out all the plague spots with which the bee-keepers of the county are troubled. Work of this kind seems but the precursor of the legislation which is sure to follow if the results can be proved at all commensurate with the small amount of expense involved. Of this we have no doubt whatever, and it affords some encouragement to note that in the case of the association first referred to the expenses of the work undertaken are "defrayed from the County Council grant."

IRISH BEE-KEEPERS' ASSOCIATION

The annual general meeting was held on the 16th inst.

The report, which was adopted, states that in 1895 a large increase was made in the number of members. Greatly increased facilities are now afforded to members for obtaining advice on bee-keeping, mainly by supplying the *Bee-keepers' Record* on extremely favourable terms and also by issuing the Association's "Notes and Hints" six times a year instead of quarterly. Between 3,000 and 4,000 sections were sold for members, mostly at from 8d. to 10d., and some run honey. The co-operation of the Royal Dublin Society and Commissioners of National Education has

been obtained for establishing an apiary at the Model Farm, Glasnevin, where instruction will be given in bee-keeping.

In this way it will be possible for a practical knowledge of the subject to be acquired by students at the Training Colleges for school teachers, enabling them to teach it afterwards to children, and by gardeners and land stewards in training at Glasnevin.

The outgoing officers of the Association were re-elected. The committee for 1896-7 contains two new members, Mr. W. J. Delap, of Cahirciveen, and Mr. H. Jenkins, of Clontarf.

A conversational meeting of members was held in the evening, at which samples of the new "Weed" comb-foundation, sent by Mr Boxwell, were shown.

HONEY RETURNS IN CALIFORNIA.

SOMETHING LIKE A "BIG YIELD" PER HIVE.

A correspondent dating from Combe Grange, near Bath, on the 18th inst., writes as follows :—

"I beg to enclose a cutting taken from the *Irish Times* of March 10. If you could find space for it in the pages of the B.J., I think it might be interesting to some of your readers. I am aware that some who have read the article would welcome an experienced opinion on the subject. One reader inquires the rents of house and land in that land 'overflowing with honey.'"

The cutting referred to reads thus :—"The land that floweth with milk and honey has not it would seem been yet obliterated from off the face of our globe—it is still a geographical reality. Those only who have visited the undulating lands of Southern California are in a position adequately to appreciate the literal wonders which in this part of the world encircle the management—as an industry—of bees and beehives. The conditions for the growth of honey, and that, too, of exceptional purity, richness, and nutritive strength, are all fulfilled here. First and foremost the air, especially at the end of spring, is alike warm and dry, an essential element in the production of sweet substances in Nature ; while the soil is the very perfection of an auxiliary in the same process by being lofty and gravelly. Persons on both sides of the Channel taking an interest in this branch of remunerative work might well look amazed to hear what sort of a harvest can be reaped in South California with an apiary. Here is a sample of a return on outlay. The outcome of a summer's work will frequently average between £75 and £200 per hive. It is not quite a rare circumstance in the far-away territory that a single swarm of bees for the twelve months has yielded in honey the seemingly incredible sum of one thousand pounds sterling! The fact is, this entire region is enriched with a profusion of honey-producing plants, so that, like as in quite a different sphere the vulture is attracted from long distances to where the carrion lies in the lone valley, so the vast abundance of flowers everywhere blooming draws, as if by a maguet, swarm upon swarm of bees eagerly in quest of their treasure substance. One reason of such an exceptional state of things is that South California abounds in all the varieties of the sage plant, which is a receptacle of a phenomenal supply of saccharine substance. The Californian honey, as those are aware who have tasted it, is endued with more virtues than its unequalled power of giving a relish. This delicate and vigour-giving food surpasses the far-famed honey of Mount Hymettus, and would appear to be a formidable rival to that nectar which, in the songs of the poets, 'enwreaths the golden goblets at the fabled banquets of the kings.'"

Our correspondent surely does not intend us to treat the above seriously. Anyway, as the B.B.J. circulates in the land of Stars and Stripes, and is, moreover, sent to the State of California every week, it is just possible we may be favoured with "an experienced opinion on the subject," gathered on the spot.

In sober English, however, and with due deference to what our Irish contemporary evidently intends to be read as a serious statement, we advise our Bath correspondent to delete the £ before figures 75 and 200 quoted, and the words "sum" and "sterling" a few lines lower down; and read pounds *weight* (avoirdupois) in each case. He will then arrive at the sense of the matter, but without those corrections the substance of the cutting is utter nonsense.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department reports of Associations, Shows, Meetings, Echoes, Queries Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*" *(see 1st page of advertisements).*

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

[2475.] After a period of cold, rough north-easterly winds, dubbed by local tradition "Blackthorn Winter," we have had a few days of real spring weather, bees fairly revelling during the early part of the day in fields

yellow with dandelion bloom, and in the afternoon busy in the fields of turnip and rape now bursting into blossom. The wild cherry, too, and blackthorn in the hedges, the wild anemone covering the woods with a carpet of white bloom, together with the many and varied wild flowers of spring make up a feast for the bees, which has set them to work with a will and resulted in a rapid enlargement of the brood nest.

In the immediate future we shall have further bee-forage in the horse-chestnut, followed closely by the beech and sycamore; vetches, too, are looking remarkably promising, and the clovers, trefoil, or hop, with a good prospect of surplus from trifolium, all these items are cheering to the bee-keeper owning large apiaries, as affording relief from the risk of cash out of pocket for feeding stuff to carry on the growing colonies till the honey flow. Sunshine and showers alone are wanted to complete the picture, and then, with a fine June and July, why bee-keeping will just "hum" in 1896.

The "Rontgen rays" are credited by the savants of Chicago as inimical to bacteria. Will it be possible in the future to turn on those "rays" to a foul broody stock of bees and annihilate the germs? Hasten the happy time, say I.

American bee-keepers are able to move their Government to publish a free issue of 20,000 copies of Benton's book on bees and bee-keeping—said to be an exhaustive treatise. Now, cannot something of the kind be done in this country by County Councils in disseminating good sound knowledge on the same subject? A pamphlet on bee-keeping, containing all necessary instructions for the successful management and care of bees in movable frame-hives, after the style of "Modern Bee-keeping," or a similar pamphlet. Perhaps the B.B.K.A. would offer a prize or prizes for the best work on the subject suitable for the purpose. This, I venture to say, should or would be a preliminary step to the foul brood Inspector, as a free copy to every bee-keeper in the kingdom would place every one who keeps bees in possession of the character of the bee-pest, and no one could then plead ignorance in respect of the disease. Canadian bee-keepers have been busy getting an Act through their Parliament to prevent adulteration of honey in any shape or form, and imposing heavy penalties for breaking the law. This appears be the most stringent and direct law dealing with the subject hitherto passed in the interest of bee-keepers.

I trust our British makers of comb-foundation have improved their processes in the super-foundation making so that we may not have the bees refusing so many sections altogether, and in others working out filling and sealing perfectly one side of the section and leaving the other side severely alone. I firmly believe that the lubricant used in milling the sheets is to blame in the matter and not the shape of bases of cells. I have had but little experience with flat-bottomed foundation though I tried a small parcel from Messrs. Abbott some years back and my bees took to it readily and worked it out into combs of which a few are still sprinkled about the apiary now, but the bees did not in all cases change the base of the cells.—W. WOODLEY, *Beedon, Newbury.*

NOTANDA ET INQUIRENDA.

CLEARING SHALLOW-FRAME SUPERS.

[2476.] At last I find leisure to return my thanks to the correspondents who, in the pages of the B.B.J., and in private letters, have kindly given me the benefit of their experience—not forgetting the parting fling of the editors.

One thing soon became very clear to me, viz., that my immovable plinths were the main cause of my trouble. With no little difficulty, and at some expense, I have had them carefully ripped off the lifts and replaced. They have been so screwed on that I anticipate no future hindrance to their entire removal whenever desirable. I can now avail myself of the editors' helpful hints in the B.B.J. of April 9 (pages 141 and 142). In fact, I have only to follow the same procedure as I adopt for section-racks. But I find super-clearers far more useful than several of my correspondents seem to do, and should be sorry to be without them.

Before proceeding farther, if space will permit, I should like to clear away one or two misconceptions:—

1. *Excluder Zinc.*—All my trouble arose from trying to do without excluder zinc one year, after reading the opinions of Mr. Simmins and others. But those who, like Mr. Walton (No. 2,449, page 124), give such positive advice, should remember that, only quite recently, equally positive advice has been given the other way. This is puzzling to a beginner; and it takes time and mishaps before the necessary experience is gained—sometimes rather dearly. I am not at all likely to omit excluder zinc for the future.

2. *Brace Combs.*—Those on the sides of frames are no practical trouble; they do not interfere with lifting one super off another. Those between the top bars of frames in one super, and the bottom bars of the next highest, are a serious nuisance. At times, owing to catching in the tin spacers, I have been utterly unable to get a cutting wire through. In the crucial case I mentioned I tried this in every way I could think of, besides attempting other dodges, before giving up and resorting, in despair, to sheer force, when the season was already too far advanced, in order to get the bees packed for winter, before it was too late. I also use vaseline lavishly on sides of hive and on tops, bottoms, and sides of frames. To

a certain extent it stops brace comb building and propolisation; but the bees ingeniously build from the *edges* of the combs to the *edges* of those next above, and so on; and I cannot at present have broader frames, as they will not go into my extractor, and I am not prepared just now to go to the expense of a new one, nor to sacrifice my fine and growing stock of built-out combs.

3. *Spacing.*—It is an entire misapprehension to think that one tier of my supering frames *rests* on the one immediately beneath. I was speaking of the *outer case.* My frame ends rest upon *that,* there being no inner case. They are, however, carefully spaced top, bottom, and sides, and properly distanced one from another.

Now let me return to the charge for the last time. In this neighbourhood the only practical source of honey-flow is the clover, first and second flowering. A large quantity being grown (there is a 16-acre field just over my garden wall!) the influx is tremendous, and the needs of supering space excessive for a very short time—about three weeks—on each occasion. Last year I had three tiers of standard and shallow frames more or less filled in my "Wells" hive, with only one stock working both sides. A single hive had five section-racks on at the same time. Mr. Wells speaks of five or six lifts on his hives at once. Hence the plans for lifting out *single combs* are useless, comparatively speaking, to me. I want to get off *whole lifts.* To take out combs one by one would send my bees boiling up in hundreds and thousands at such a time from the open and bared tops of the frames beneath. This is just what I want to avoid.

What I propose to do is this. I shall unscrew plinths, if I cannot loosen the lifts by working them gently round, or to and fro (as I have had the plinths well rebated), then I shall slowly coax a thin carbolised cloth between the lift and the one below it. After a few moments I shall suddenly raise super and cloth, my assistant will pop on a clearer, and down will go the lift (*minus* the cloth, whisked away) at once. Next morning there will not be a bee left in the super. I have done this so often with section-racks that I have no doubt whatever of success now my plinths are removable. With my "Wells" hive, the size and weight are the difficulty: but I see no help for it but to work on the same plan, with the necessary extra assistance. Here two clearers must be clamped together side by side to cover the whole double-hive top. It seems to me that any "absurdity" lies at the door of the makers (a well-known firm) who send out such a monstrosity. Of course, the supers ought to be in two manageable divisions, when there would be no more fuss than with single hives. The bee-appliance makers are indeed much to blame. I have had a super clearer board sent me with the escape fitted in wrong side up; fortunately I noticed it in time. Advertisements and even illustrations of hives with fixed plinths appear in the current numbers of the B.B.J.; and from what I hear, such unworkable hives are being sold in hundreds—and can only cause endless annoyance and vexation.

This must be my parting shot for the present, as practical work will now engross my scanty spare time. Perhaps after the experience of another season, I may have accumulated some more notes and queries, and may find time to ventilate them. It only remains for me once more to offer my most sincere thanks to all those who have so kindly sought to assist me out of my difficulties, and especially to thank the Editors of B.B.J. for their extreme indulgence and consideration. May the coming season prove so successful that the after-leisure may find us all in the full enjoyment of exuberant and lasting good spirits.—SELF-TAUGHT, *April* 20, 1896.

BEES REFUSING FLAT-BOTTOMED FOUNDATION.

[2477.] I can fully corroborate my colleague, Mr. Harrison (2473, p. 155), as to bees refusing "flat-bottomed" foundation; and, besides the instances he mentions, my own personal observation and that of many of my friends all tend to the same view. They (the bees) do *not* like it. They nibble it away, tear it down, or refuse to touch it. I have just been showing to a new member and beginner practical demonstration of the above by means of some of last year's spoiled work. And I may say, further, that in the instances I have met with the foundation has not all come from the same maker. This is a matter of great practical importance to bee-keepers and to dealers, and I trust the ball set rolling by Mr. Harrison will lead to some useful information on the subject. —FREDERICK H. TAYLOR, Local Hon. Sec. for Manchester and district, *Old Hall-lane, Fallowfield, April* 17*th.*

[We can only add to our remarks in foot-note to 2473, viz., that both here and in America many bee-keepers prefer and use only the Van-Deusen, or flat-bottomed foundation, preferring it to any other. Our personal experience of it after trial is that bees work on flat-bottomed foundation as freely as on that with the natural base. We cannot say less than this in justice to Mr. Van-Deusen. —EDS.]

REMOVING "EKES" IN SPRING.

IS THE OPERATION DANGEROUS TO QUEENS?

[2478.] The other day I found that my bees were mostly very busy at drone comb-building and drone-rearing, under the frames, in the "ekes"; I have not seen any special notice in either RECORD or JOURNAL to call attention to this; but have let my bees alone,

as in taking away an "eke" on March 22 I only just saved a queen from being completely balled in my most forward colony; and we have since had Mr. Webster's caution in April *Record*, against early manipulations. In the most forward case of comb-building, a lift of standard frames had been left on for the winter, and there was top-front ventilation, and the "eke" was open at top on all sides as an experiment.—NED SWAIN, *Fordwich, Canterbury, April* 15.

[It should surely need no "special notice" to ensure the removal in early spring of "ekes" placed below frames of brood-nests for ventilation in winter? Besides, the disturbance necessary is so very trifling that we never before heard of a case of balling being attributed to it. We are also fully in accord with Mr. Webster's objection to untimely manipulations in early spring; but we think his remarks on page 48 of April *Record* expressly refer only to the pulling about of combs in examining brood-nests in the early season—a very different matter to a simple operation occupying about two minutes' time, and causing no disturbance of combs at all. We therefore think our correspondent may safely banish his fears on the point, and take away his "eke" when the proper time arrives; while to account for his own particular experience of "balling," as stated, we must, as usual, take refuge in Mrs. Tupper's declaration that "bees do nothing invariably." The fact of "ekes" being left on floor-boards until combs are extended down into space below, is however, a serious mishap, and the pieces of comb should be removed without delay by cutting them away from bottom bars with a knife, before removing the "ekes" and setting the hive down on floor-board. An assistant will be required in the operation.—EDS.]

BEE NOTES FROM SUSSEX.

[2479.] That the bees are at last having a high good time there can be no doubt. To-day I took the trouble to look carefully into some blackthorn blossom I was passing not far from my house, and it was simply alive with bees, and their hum could be heard some way off—indeed, this first drew my attention to them. Stocks are increasing rapidly, and pollen is being brought in wholesale. Whatever anticipations, good, bad, or indifferent, bee-keepers may be forming, their bees evidently mean business. Some of my stocks had been sadly reduced in numbers, and I greatly feared for one in particular; but they are one and all looking up, and will evidently give a good account of themselves ere long.

The abundance of spring garden flowers now in bloom, the varied fruit blossoms, and the large quantity of pollen to be obtained, are tempting the bees out on every possible occasion, and they are working with a will whenever the sun comes out and the temperature rises. The restricted range of the thermometer and the entire absence of night frosts have been in their favour; but too many days are still dull and chilly—from a bee point of view. The absence of high winds and of frosts, and—it must be added—of the amount of sunshine usual at this time of year, is still very remarkable. The rainfall is not yet up to the average. The prevalence of winds from S.W., W., or N.W. during the whole winter and spring is most unusual. So far, we have hardly had an easterly wind this year.

In No. 2447 (page 118) I asked what bees were doing which I noticed poking about right down in the stems of grasses. By careful observation, I have solved the query for myself. They are drinking the dew-drops, which seem to have a great attraction for them. I have several times distinctly seen a bee entirely absorb a droplet; and I have become considerably impressed by the respectable amount a bee can thus dispose of. I fancy the usual estimates as to what a bee can "carry" require large emendations. What it is that takes the bees down into gravel paths I have been unable to ascertain.—W. R. N. *Sussex, April* 20, 1896.

MANIPULATING BEES.

[2480.] In your Editorial remarks on my letter (2472, p. 154) you have slightly misunderstood my meaning. You say:—"It is, therefore, not quite good policy to lead readers to suppose that smoke and bee-veils may be dispensed with." I should be most averse to inducing readers to dispense with the bee-veil, as I am a strong advocate of it, and always use it myself. And I think my letter is quite innocent of detracting from the virtues of the indispensable bee-veil. The very fact of wearing a veil and gloves gives confidence and facilitates gentle treatment. The gloves which answer my purpose best are thin dog-skin covered with two coats of varnish. The varnish renders them unlike skin, consequently they are seldom stung. The thinness of the glove, which should fit like a lady's, prevents the least discomfort in manipulation.

I quite agree with you that it would not be good policy to advise all bee-keepers to dispense with smoke. But from experiments I have made during the last two years I am confident that, with a suitable hive, and adaptability for the work in the bee-keeper, all ordinary operations can usually be performed without the use of any intimidant. A properly constructed hive is of the utmost importance. In my opinion the mistake many bee-keepers make is they open fire on the unfortunate bees at once, instead of first observing if smoke is required. They expect their bees to commence stinging, when perhaps they have not the remotest idea of indulging in such conduct. When I am opening a hive, provided the day

is fine, I assume that my bees will be quite gentle and friendly, and, as a rule, my assumption is correct. Three ladies came a few days ago to see our bees, and they wished to see a hive manipulated. The day was dull and rather cold, and not suitable for opening a hive, so I warned them that I would not promise there should be no stinging. A hive in a shed was chosen, which has been manipulated four times lately. Some combs were taken out and shown, and not a bee attempted to sting. No intimidant of any kind was used. Of course I provided the ladies with veils, for one never can be sure what some dyspeptic bee may do. I am inclined to think that bees in a house with partially open front are quieter during manipulation than those on outside stands.—R. T. SHEA, *Southend, April* 18, 1896.

[Now that our correspondent explains his use not only of a bee-veil but also of gloves when manipulating, it is more easy to understand how smoke may be to great extent dispensed with in his case. At the same time, and while always advocating the use of protection, as stated in our footnote on page 154, we advise the casting aside of gloves at once when sufficient has been gained. On this point the general body of bee-keepers agree with ourselves in considering that gloved hands would be an intolerable hindrance to comfort and ease when manipulating bees.—EDS.]

WILLOW HONEY.

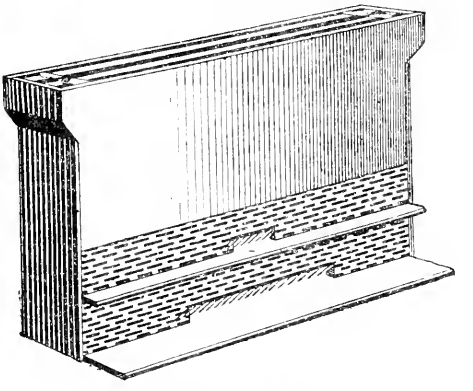
[2481.] I can quite bear out what Mr. Simmins says *re* the honey flow from the willow, as I have again got my hives almost filled with this beautiful honey. I think this is about the fifth year in succession we have come in for a good "willow honey" harvest. I believe it was three years ago this spring I had a crate of sections nicely filled with it. Nothing stimulates the bees more in early spring. I have stocks now so crowded that swarming must soon take place unless supered at once. Would that we had nothing worse to trouble us here, but alas! we are surrounded with foul brood in all directions, hives in abundance standing rotting with it, and the owners will not take trouble to destroy them, excusing themselves by saying, "It's no use destroying their bees while others won't do the same." "Compulsory powers" are, indeed, wanted here.—H. NEVE, *Heathfield, April* 20, 1896.

NOVELTIES FOR 1896.

MEADOWS' NEW SWARM-CATCHER.

(Registered.)

Concerning this the manufacturer says:—"This appliance as now made is the outcome of practical experiment and experience. It combines the tried principles of the Porter bee-escape and the Alley trap, and while allowing free ingress to the bees between a pair of delicate flat springs, effectually prevents the escape of the queen when in the act of swarming. The catcher is divided into two compartments, the lower one forming a direct entrance into the hive from outside, while the upper portion—shown in the cut as holding two frames only—may be made to hold as



many frames as desired. When a swarm is issuing the queen (along with a large number of bees) finds her way into the upper portion by one of the two cones fitted for a passage-way, and being retained there, is joined by the returning bees of the swarm. The swarm, when settled in the upper part of the catcher, has an alighting board of its own apart from that of the parent hive, and will work as a separate stock till removed to its permanent stand.

"The appliance can be fitted to almost any hive made."

MEADOWS' NEW WAX-EXTRACTOR.

"No special originality of method is claimed for this little appliance, the plan in various forms having been long in use; but we do claim credit for a simple, economical, and original application of the known method of wax-extracting. A round pan or boiler (fig. 1)

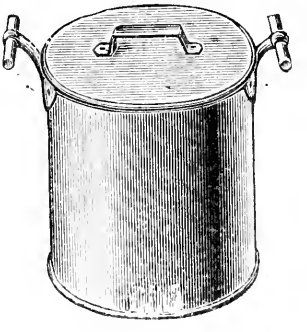


Fig. 1.

is fitted with an inner vessel of corrugated iron (fig. 2), having a loose top and bottom of perforated metal, together with a device for keeping it in middle of the boiler when in use. This is the wax-holder. When the

latter has been filled with broken combs—pressed close down by the loose lid laid over all—the boiler is filled with cold water until the wax-holder is completely submerged. As the water heats the wax melts and passes upward to the surface of water above, on which it floats till removed, when cold, as a solid cake of clean wax, the débris being retained in the wax-holder."

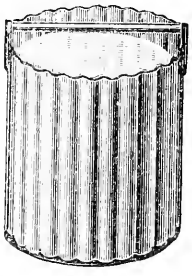


Fig. 2.

Mr. Meadows informs us that he has made some further improvements in existing appliances of his own make which tend to place them in the list of "Novelties" of which we may give particulars later.

[Other appliance-manufacturers will oblige by forwarding illustrations and descriptions of "Novelties" they may desire to bring before bee-keepers for insertion in this column.—EDS.]

EARLY SWARMS.

The Rev. E. Davenport (who is now on an "Expert" tour), dating from Evesham on Monday, the 20th inst., writes :—

"I have this day met with the first swarm for this year, so far as I know. It came off in the apiary of Mr. Bent, of Evesham, and was a very fine swarm indeed. All hives are boiling over with bees, and sections are filling fast."

We have also had the following cutting sent us from the *Northampton Mercury* of the 10th inst. :—"Mr. W. J. Blackwell, of Stanwick Hall, had a swarm of bees on Tuesday last. The bees, which were strong and in good condition, alighted on an iron fence along the carriage drive to the hall."

Queries and Replies.

[1455.] *Bees Dying in Hive.*—Noticing in February last that no bees came out on warm days from one of my hives, I lifted quilt, and found them all dead. There were scarcely 200 in the hive. I had meant to join them to another stock in the autumn, but they were at least 100 yards from the next one, and I did not have time to move them up, so let them take their chance. On examining combs, I find them like the piece I send. Only two or three are so affected, and I send the worst piece. Will you tell me—1. Is it a case of foul brood, or can I use combs again (they are new) ? 2. Does the mould you see in one cell make any difference ? 3. What would you advise me to do with combs ? — PETER, *April* 11.

REPLY.—1. Yes. So long a time, however, has elapsed since any brood hatched from the cells that all trace of the ordinary symptoms has disappeared. In such cases nothing short of microscopic examination will reveal the presence of the disease except to a long-practised eye. 2. Mould in combs will be removed by the bees. 3. Burn them.

[1456.] *Bees in Frame-hives without Frames.*—As you ask on page 160 of last week's B.J. for further information—about what I propose to do in getting my bees into proper working order—before giving me advice, I beg to say I am only a novice at bee-keeping, a mason by trade, mostly at work away from home. But having a son, aged 18, who is in delicate health, I am going in for bees, thinking he might be able to manage them, and make bee-keeping his occupation, or partly so. I have bought your books for his instruction, and we are taking in the B.B.J. I have eighteen hives (own make), made to take standard frames, but having only strips of wood across top instead of proper bar-frames. I made them so, not having spare cash at the time to buy frames, and thinking, or hoping, they would answer for my purpose, but find they don't. Last year my bees made very little honey, but were continually swarming. All the hives sent off at least two, and some three, swarms each. Having now ten stocks working well in the above-mentioned hives, I desire to get the bees on combs built in proper standard size bar-frames. My plan is to procure a supply of the latter, fill them with foundation, and get all ready for swarms, and place the swarms in them as they come off. Then after each top swarm has been hived (same day if possible) cut from each parent hive the strips of wood which serve as top-bars, together with the old combs—brood and all—and replace them with standard frames with full sheets of foundation. The bees left behind by the swarm will then have the same start as the swarm just hived, will they not ? Any advice as to my plan, or a better plan, will greatly oblige. I may say I have only the ordinary black bees. Can you furnish me with name of the secretary of the Shropshire B.K.A. ?—JOHN KINNINGS, *Salop, April* 18.

REPLY.—The fault in the plan proposed lies in the fact that no mention is made of the combs full of hatching brood left in the parent hive, and which if they dealt with as proposed would all be sacrificed. The proper course will be to defer putting the bees on to the new frames of foundation for twenty-one days

after issue of first swarm. (If a second swarm comes in nine days, return it early next morning.) By that time all the brood will be hatched out, and so no bees will be sacrificed. The hon. sec. of the Shropshire B.K.A. is Miss Eyton, Wrockwardine Hall, Wellington, Salop.

[1457.] *Suspected Fertile Worker.*—Two of my hives gave a surplus last year of about 70 lb. each. They have not swarmed for two years. On examination yesterday I found about five frames of brood, and scattered over two of the frames were patches of brood projecting fully ⅛ in. about three or four sealed cells together, about a dozen or more on each comb. I did not examine for cells on the other frames, but those I saw were smaller than queen cells, and not hanging down. Would a fertile worker be permitted to lay with a laying queen in the hive? I am afraid the queens are too old, but I never can find queens except by accident. Will you kindly tell me what is best to do? The hives are fairly full of bees, and there appeared to be brood in all stages.—W. Todd, *Oundle, April* 20.

Reply.—If there are so many as five frames of brood at this season, we should rather think that the queen has deposited a few drone eggs in drone-cells which chanced to be in the positions noted. At any rate, we cannot think the queen is failing in fecundity, nor is it likely that a fertile worker will be present. Are the protruding cells drone or worker cells? We should merely wait further developments later on.

SEASONABLE QUESTIONS.

ANSWERED BY G. M. DOOLITTLE.

Queens Mating.

Question.—Do queens of second swarms "mate" before or after they lead out a swarm? I see one of our "bee-lights" says that "perhaps they may mate before going out with the swarm."

Answer.—If any bee-keeper of known prominence puts forth the claim that queen leading out an after-swarm may mate with the drone, or become fertile, before she so leads the swarms, it is something I should not expect, and shows that he or she cannot have looked into the matter very thoroughly. I have made swarming and queen-rearing a study for the past twenty years, spending hours, days, and weeks upon it; and if any queen was ever fertilised, or even flew out to meet the drone while there were other young queens in the cells, it is something I have never noticed, and something that all of my experiments go to prove never happens. All know that after-swarming comes only from a plurality of queens in the hive, and these queens are always those which have never been out of the hive at all, except as they may have gone out with an after-swarm, and been returned by the apiarist. As a rule, during after-swarming, all young queens which would naturally emerge from the cells, except the first hatched, are kept in the cells by a guard of bees which feed them through a small opening in the cell, made by the young queen trying to bite the cover off; and these queens are constantly "piping" because they are kept prisoners; and the one which has her liberty is piping back in her enraged condition — enraged because of being kept from destroying her rivals.

While such a state of things as this is kept up in the hive, no queen has any desire to mate, and no after-swarming is ever conducted except under just such a state of affairs. In one or two instances, where after-swarms had been kept back for several days by unfavourable weather, and where only one queen went with the after-swarm, I have had every evidence to believe that said queens were fertilised while out with the swarm, as I saw them entering the hive with the drone organs attached to them, and they were laying two days afterward. But the rule is, that all queens accompanying after-swarms wait about their wedding-trip until they are established in their new home, when, in two to four days after hiving, on some pleasant afternoon, the bees will come out for a playspell, and the queen be seen to leave the hive to mate.

Getting Bees to Work in Upper Stories.

Question.—I use the Simplicity hive, and wish to know if the hanging of a frame of brood and honey "upstairs," taken from the lower story, would get the bees up and to work more quickly? I use full wired frames of foundation.

Answer.—Yes, it would in many cases; but would it not be too much manipulation for the advantage gained? The bees will follow their brood "upstairs" every time; but it does not appear to *always* get them to work more quickly, as to starting comb-building, than by other methods. The theory, that, as bees will instinctively adhere to their brood wherever it is placed, so the said brood will set bees at work wherever there is brood, needs to be taken with a degree of intelligence; for, no matter whether the brood is kept together or separated, the bees will not go to work storing honey or drawing out comb-foundation, in any part of the hive, when there is a dearth of honey; and very many do not seem to think otherwise than that the bees should be at work storing honey on every pleasant day during the time flowers are in bloom. If there were any difficulty in getting bees to work in a properly arranged surplus-apartment, when there is anything for them to do, it would be of advantage to talk about a remedy; but my experience has been that, if there is honey in the flowers, and the weather is fine, and the brood-nest is full of brood, or brood and honey, we shall find it a difficult matter to keep the bees out of the surplus-apartment, even should we wish it otherwise, short of taking said

apartment from the hive, or excluding the bees therefrom. I think all of our best practical apiarists agree that, with good average queens, a good strain of bees, proper size and shape of brood-chamber, right communications to the surplus-receptacles, bees will, without any artificial inducement, begin in the surplus-apartment just as soon as the secretion of nectar will yield any surplus.—*Gleanings.*

Bee Shows to Come.

May 27 to June 1.—Bath and West of England Agricultural Society at St. Albans. Bees, hives, and honey. Entries closed.

June 9 to 12.—At Eastbourne, in connection with the Royal Counties Agricultural Society's Show. For Schedules apply as below. Entries close May 22.

June 22 to 26.—Royal Agricultural Society at Leicester. Schedules now ready. Entries close May 1. All letters relating to Bee Department of above Shows to be addressed to Edwin H. Young, Secretary B.B.K.A., 12, Hanover-square, London, W.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

H. MAY (Tetsworth).—*Chilled Brood.*—Comb contains chilled brood, but how the mischief has been wrought it is impossible for us to say. Nor can we judge what portion of the larvæ was dead when combs were removed from the hive. Almost the whole of the *sealed* brood seems in normal healthy condition, while of the unsealed—now turning dark grey in colour—it, too, may have altered since removal. You give no particulars at all to account for the chilling and death of the brood, so we can only say there is no disease present, and if there are too few bees in the hive to cover the brood-combs, or if you have been exposing the combs in cold weather, it may account for the death of the larvæ. Otherwise we cannot explain it.

GEORGE HILL (Boxted).—*Returning Swarms.*—We cannot see any good object to be gained in keeping a top swarm in the hiving skep for forty-eight hours, and then returning it to the parent hive. If it is intended to cut out queen-cells to prevent the re-issue of swarm, it should be done, and the swarm returned on the evening of the day on which it issued; but if queen-cells were not removed, the swarm would most probably come out again. Your friend should should give more details of his procedure before we can understand it properly.

DAVID HANCOX (Deddington).—*The "W.B.C." Hive.*—1. The top-bar of Standard frame is $1\frac{9}{10}$ in. wide. 2. Shallow frames for surplus may be fitted with the ordinary "W.B.C." end, same as used for brood-frames or the "wide-end," which is barely 2 in. outside measure. 3. The description given of "W.B.C." hive in BEE JOURNAL of February 1, 1894, deals with frames fitted with "W.B.C." ends, of which a body-box of the size named holds ten frames and "slips" as stated. If a dummy is permanently used in the hive the body-box should be made $1\frac{1}{2}$ in. wider inside, ten frames being more suitable for the brood-chamber than nine. 4. If comb foundation be fitted in grooves in side-bars of frame (as with sections), from top to bottom, it is apt to sag or buckle. We should not let side-bars "grip" the edge of foundation for more than half its depth, leaving remainder free to allow for stretching. 5. Giving two additional frames fitted with foundation will certainly tend to delay swarming for a few days. 6. About first week in May we hope to see the book out.

A. WEATHERHEAD (Redbourn, St. Albans).—*Difficulty of Obtaining the B.J.*—Your newsagent need have no difficulty in procuring this journal along with other papers. It is always obtainable at our publishers—Messrs. Kent & Co., Paternoster-row—on Thursday morning of each week.

Special Prepaid Advertisements.

Situations, Publications, Bee Plants, &c. — Up to Twelve words, Sixpence; for every additional Three words or under, One Penny.

STOCKS, Nuclei, Swarms, and Queens.—Address, Rev. C. BRERETON, Pulborough, Sussex.

FOR HONEYCOMB DESIGNS apply C. COX, Brampton, Northampton.

FOR SALE, 2 cwt. SUPER HONEY (good pale). Sample 7d. lb. LING, Shady Camp, Cambs. L 29

NUCLEUS, 10s. 6d. Five-framed STOCKS, 20s. Address.—FRANK REED, Portslade, Sussex. L 38

FOR SALE, EXTRACTOR, two frames, new, 18s. GARDENER, Bryeswood, Southbourne, Hants. L 41

TWO STRONG STOCKS, with hives, for sale, 35s. OVERY, Yalding, Kent. L 42

3 SKEPS BEES, 11s. each. Foul brood unknown this district. LYON, Soham, Cambs. L 43

FOR SALE, Three very strong Stocks in Bar-frame Hives. Cheap. MOSS, Station Master, Ravenstonedale. L 40

FOR SALE, 7 doz. 1 lb. TIE-OVER JARS of HONEY, at 7s. per dozen. Packing-case free and put on rail. WOODLEY, World's End, Newbury.

2 CWT. of Pure Wiltshire Honey FOR SALE, 60s. per cwt. Packages free. Sample, 2 stamps. WHITE, Woodford, Salisbury. L 44

BEEKEEPERS should try PATERSON'S SCOTCH-MADE MEDAL HIVES and APPLIANCES. PATERSON, Pollokshields, Glasgow. L 11

SURPLUS HIVES FOR SALE, Cheap. One 15-Frame Blow's 50s. Hive; one Cowan's 15-Frame 27s. 6d. Hive; and four 10-Frame cheaper Hives; 2 Extractors; and Sundries. For price, apply HOCKETT, Potter's-road, New Barnet.

Editorial, Notices, &c.

BEE ASSOCIATIONS AND FOUL BROOD.

THE NEED FOR EDITORIAL "DISCRETION."

Mr. F. J. Cribb—who is known among bee-keepers as the active expert of the Lincolnshire B.K.A. and also as a lecturer on bee-keeping under County Council auspices—sends us a lengthy communication having reference to the article which appeared in our issue of last week, dealing with the subject of County Associations and foul brood. The importance of the subject has decided us to give the letter somewhat more prominence than if it occupied a place in our correspondence column by inserting it here.

The writer says :—

I have read with much interest your article on the above subject in your issue of April 23, and am very glad to find that some County Association is—with the assistance of its County Council—endeavouring to grapple with and prevent the spread of this disease—a disease, I believe, to be more or less prevalent from one end of England to the other, as readers who follow your answers to queries during the spring and summer season must well know. I can also readily believe that you have more "reliable information" as to infected districts than even the experts of County Associations themselves ; these latter mainly coming into contact with the members of their associations *only*. At the same time I believe that the County Associations have readily assisted the B.B.K.A. with all the information derived by their experts when "on tour," and thus strengthened the hands of the joint-committee now endeavouring to obtain "compulsory powers." Now, if—as I hope—we are successful in securing the desired legislation, we may take it that districts will be "proclaimed," and dealings in bees in these districts prohibited, as in the Contagious Diseases (Animals) Act. Buying bees from infected neighbourhoods is, doubtless, a prolific source of the spread of the disease, and as the circular which you reproduce on page 162 states, "no stocks should be sold or purchased until it is ascertained that their district is free from foul brood." I would ask, How are we to obtain this information? The counties have helped the B.B.K.A. to obtain their "reliable information," and one would naturally think that the B.B.K.A. would reciprocate the favour by helping the counties in this matter, and so prevent the purchase of bees from infected areas. They could also publish lists of these hot-beds of disease, forwarding them to all the secretaries of associations with a request that special attention on the part of the experts shall be given to them, and supplementing these lists from time to time as fresh information is acquired. But although much good preventive work might, to my mind, be done by this means, the B.B.K.A. keeps this valuable information entirely to themselves, and if foul brood is mentioned in the B.B.J., the Editor's "discretion"—as they term it—is at once used, even when a secretary of a County Association who has advertised the fact in the local papers sends a printed and signed circular on the subject. That the Editors of the B.B.J. have a perfect right to exercise what they are pleased to term their "discretion" no one can doubt ; but is it "discretion," either on their part or that of the B.B.K.A., not to do *all* that lies in their power to check this pest and hindrance to the development of bee-keeping?

In adding a word of reply to the above, we plead guilty to having again exercised our "discretion" by leaving out a considerable part of the letter which follows the portion printed above, feeling quite certain that to publish the whole would do more harm than good.

Our personal knowledge of Mr. Cribb, and the assurance we feel that anything said here will not be misconstrued by him, enables us to be perfectly frank in the matter, because, as a very prince of modern satirists, W. S. Gilbert, says—"He means well, but he don't know." Our friend also falls into the very common error—among bee-keepers—of so confusing the editors of this journal with the B.B.K.A., that, to quote a less-distinguished satirist—"he don't seem to quite know the other from which." Seriously, then, let us make it clear that the Council of the B.B.K.A. had no more cognisance of the matter forming the basis of the article referred to, or that it was being written at all, than that body does of the "reliable information" to which we referred ; and that is nothing whatever. The information we had in mind was and is the property of the editors of this journal, and, as such, we shall continue to regard it as strictly private and confidential. The reasons for this are so obvious that we are rather surprised that anyone should fail to see them. But, while gratefully acknowledging the help cheerfully rendered to the B.B.K.A. by County Associations in furnishing statistics for placing before the Board of Agriculture, we must, in our capacity of

editors, draw the line at divulging information supplied in very many cases only because of the confidence reposed in us by senders, that the words "private and confidential" are understood and scrupulously respected.

We cannot help adding that, in view of the incessant and anxious labours of the Council of the B.B.K.A.—along with their co-members of the Joint Committee representing the County Councils—in the effort to obtain legislative powers for dealing with foul brood, it is both unjust and ungenerous to imply that they are "not doing all that lies in their power to check this pest and hindrance to the development of bee-keeping." If our friend Mr. Cribb had worked on that Committee he would have "seen with other eyes," just as we know would be the case if it had been his good or ill fortune to occupy an editorial chair in the office of the B.B.J. Earnest effort is in every way commendable, and our correspondent's zeal is, we know, well meant, but he must not allow it to get beyond discretion. An unfounded and injudicious scare would do incalculable harm to the pursuit, and we think the work of tackling foul brood is in fairly safe hands, if our younger heads will only allow that experience is just a little akin to wisdom, and bear in mind that others are fully as alive to the mischief wrought by the "pest" as themselves.

BRITISH BEE-KEEPERS' ASSOCIATION.

We are requested to remind members of the British Bee-Keepers' Association, and those who intend to become such, that the next conversazione is fixed to be held at 5.30 p.m. on Friday, May 8, at 12, Hanover-square, W., this change in the place of the meeting being rendered necessary owing to the board-room of the R.S.P.C.A., at Jermyn-street, not being available on that day. We are not surprised that these gatherings are rapidly increasing in popularity, seeing the splendid opportunities they afford for the discussion of old, and propagation of new theories, and methods of practice. Any member wishing to bring forward novelties for exhibition at the coming meeting should not fail to communicate at once to the Secretary, Edwin H. Young, 12, Hanover-square, London, W.

ESSEX BEE-KEEPERS' ASSOCIATION.

The annual meeting was held at the Vestry Hall; Chelmsford, on Friday, the 17th, the Mayor (Alderman Chancellor) presiding. Before the business was proceeded with, it was resolved, on the motion of the Chairman, to send a vote of condolence to the relatives of the late hon. secretary (Mr. F. H. Meggy). Mr. Edmund Durrant read the report, which expressed regret at the death of Mr. Meggy; referred to the resignation of Mr. W. Debnam, who had been the expert since the foundation of the society; and mentioned that Mr. Frank Tunbridge, of Broomfield, had been appointed Mr. Debnam's successor. The balance-sheet showed that the receipts had amounted to £136. 3s. 6d., and the expenditure to £147. 19s. 10d., the loss on the year's work, therefore, being £11. 16s. 4d. The assets showed a balance of £25. 6s. 7d. over the liabilities. Mr. Debnam reported upon his work as expert last season; and thanked the members for the many kindnesses he had received during the past thirteen years.

The chairman, in moving the adoption of the report, observed that the condition of the Association could hardly be considered satisfactory until the receipts equalled the expenditure. The report was adopted.

In reply to a question, Mr. Denham said foul brood was decreasing, but many persons were very careless about it. Mr. J. T. Weston (Wickham Bishops) said the disease was extending in some districts. The British Bee-Keepers' Association hoped to get Parliament to pass a bill for the suppression of it. The President (the Countess of Warwick) and the Vice-Presidents, were re-elected, and the following were appointed a County Committee:—Mr. E. A. Fitch, Miss Philbrick, Miss Butler, and Miss Luard; the Revs. H. A. Lake and A. Pertwee; Messrs. G. J. Bolingbroke, Percy Gray, A. Barnard, T. C. Godfrey, W. J. Shepherd, J. T. Weston, C. R. Finch, and P. Hills; Dr. Symmons, Miss Collin, and Miss Bullock. The Executive Committee were elected as follows:—The Rev. H. A. Lake and Messrs. Barnard, Finch, Godfrey, Hills, and Weston. The following officers were also appointed: — Hon Secretaries: Messrs. E. Durrant and P. Gray; Treasurer, W. M. Tufnell; Auditor, C. R. Finch; and Representative to the British Bee-Keepers' Association, P. Gray. A purse of money was presented to Mr. Debnam as a mark of appreciation of his services as expert. Mr. Durtant said the arrangements for the show at Brentwood in June were in progress, and the Local Committee and the Essex Agricultural Society had each voted the Association £10.

The meeting closed with thanks to the officers.—(*Communicated.*)

OXFORDSHIRE B.K.A.

The annual meeting of this Association was held at the Wilberforce Hotel on the 4th inst., Mr. T. Hughes, of Combe, presiding. Amongst those present were Messrs. Perry, Jordon, Slatter, Anstey, Salmon, and Herbert, H. M. Turner, and E. F. Turner (hon. sec.).

Mr. Turner read the annual report, which stated that the Association is still increasing in numbers, more especially in the cottager and artisan classes. The committee regret that since 1894 foul brood has been on the increase in the county. They strongly urge any members who have the slightest suspicion of the disease to communicate with the secretary, who will assist them to prevent its spreading into neighbouring stocks. The committee are glad to find that, where recommended by the experts, the hives were burnt, and thanks are specially due to those members who sacrificed their stocks in order to prevent the spread of the disease to their poorer neighbours. A new departure has been made this year by sending the expert to all members of the Association without applications being made for a visit, and this has proved a great success. It has been the means of detecting foul brood in its early stages. The expense has been somewhat heavier, but the information obtained, and the precautions taken to prevent foul brood spreading to other members, fully compensated for the extra outlay. The number of hives examined was 738. It was recommended that an application be made to the County Council for funds to stamp out foul brood in our county.

The report and balance-sheet was adopted.

The president, vice-presidents, and hon. secretary and treasurer; auditors, Messrs. W. Beeson and J. Salmon; committee, Messrs. E. Goddard, E. Slatter, J. Salmon, W. Beeson, W. H. Turner, C. B. Anstey, and E. Jordon were re-appointed, Mr. E. F. Turner being elected.

During the after proceedings, a vote of thanks was accorded to the "British Bee-keepers' Association for their persistent endeavour to bring before the Board of Agriculture the question of foul brood, and that this meeting of the Oxfordshire Bee-Keepers' Association urgently hopes that, taking into consideration the disastrous effect of foul brood on the bee-keeping industry, the Bill about to be introduced will get the support of Parliament and become law." Mr. Salmon proposed "That this meeting instruct the secretary to write to the County Council asking them to receive a deputation from this Association to lay before them the claims of bee-keeping as a growing industry, with a view to obtaining a grant." The proposal was agreed to, and the meeting terminated with the usual votes of thanks.—(*Communicated.*)

ABOUT OUR BEES.

BY HENRY W. BRICE.

XII.

HONEY PRODUCTION.

Bees are naturally busy insects, and yet under certain conditions they may become idlers, albeit through no fault of their own. One of these conditions is not seldom found at the height of the honey season, and is brought about simply from want of storage room. All cells not occupied with brood are already filled with honey, and the bees have sufficient wisdom to see the folly of toiling away to fill their honey sacs with no place at home wherein the results of their labour may be stored. Consequently, they have no choice but to either swarm or stop work. Instinct teaches them that idleness is bad, and so they adopt the alternative.

No careful bee-man will allow this condition of things to arise; but when it becomes probable that his bees are likely to want storage room, on goes the super, either in the shape of a rack of sections because he does not happen to have a box of shallow frames ready, or *vice versa*, but just the best form of super for his requirements, because the thorough bee-man has the proper thing ready for use at the right time. The first sign of the upper portion of combs in the body box being extended or lengthened out as shown by the lighter coloured wax of freshly-built comb, shows him that the time for supering has come, and he acts accordingly. The ability to produce honey in quantities and in good form speaks much for the skill of the bee-keeper. The two forms in which marketable honey is now produced are known as comb honey in sections and extracted honey. For the first, the well-known one-piece folding sections, made chiefly in America of thin white wood, are almost universally used. These sections when folded form the sides of a box, $4\frac{1}{4}$ in. by $4\frac{1}{4}$ in., $\frac{1}{8}$ in. in thickness, and 2 in. wide, with bee-ways cut on two and sometimes on all four sides. Into these frames thin super-foundation is fixed, either by means of grooves running round the inside of the little box, by the split top-bar, or by the use of such other known devices as may be preferred, such as melted wax, pressure, &c. I prefer the split top-bar myself, though no doubt other methods have their advantages. With the all-round groove, the sheet of thin foundation is slid down into the grooves, and these full sheets in a great measure prevent the formation of what are termed pop-holes, while with the split-top less than full sheets of foundation may be used, which is conducive to a thinner midrib. To my mind a thick midrib in comb honey is a serious objection, and any means to obviate this is desirable. In choosing foundation for this purpose, great care should be taken to get an article which will be readily taken to by the bees; whether it is flat-bottomed or natural-based matters not one iota; bees take equally well to either so long as the foundation is made from pure, wholesome, sweet-smelling *bees*wax. The section boxes thus prepared are fitted into racks, made especially for their reception, a rack usually containing twenty-one. They are also used in boxes fitted with hanging-frames to hold the sections; wide frames, each holding three of the sections, being more convenient for handling, besides keeping the wood of sections much cleaner.

The second method is to work for extracted honey, in which case shallow-frames are mainly used for surplus, though a few prefer those of standard size. I always use the shallow-frame fitted with half sheet of light brood foundation, fixed in the usual way. In choosing between these two methods of working the bee-keeper will naturally be influenced by the demands of the market in his neighbourhood. Some find comb honey sell best; with others the demand is for extracted honey, it therefore follows that in determining the plan to be pursued, surrounding circumstances must, of course, be taken into account. The difficulty in producing really good sections is great in many districts; and the result, too, is less certain than when working for extracted honey. Bees, also, are far more likely to swarm from sectioned hives than from those tiered up with boxes of shallow frames; besides, should brood find its way into comb honey it is fatal to its sale as such. Of course this particular mischief can and should be guarded against by using excluder zinc. On the other hand, section honey commands a better price than extracted, being regarded by many as a greater delicacy. Bees, however, are often reluctant to start working in sections, though this may, to some extent, be obviated by placing a few sections with worked-out combs in the rack. Section honey has the further drawback of not keeping so well as extracted. In fact, the latter, if ripe when removed from the combs and properly bottled, will keep good for years, while comb honey may, in some sense, be regarded as a "perishable" article, for it becomes unsaleable when candied, and, if not carefully preserved in a warm place, will "spoil" for sale purposes. Extracted honey also candies, but this is no drawback, as it can easily be restored to liquid form with little or no detriment to its quality.

To get bees to work well and quickly in supers the great point is to prevent them storing to any great extent in the brood-chamber. The combs in this part of the hive should be as nearly as possible filled from one end to the other with brood. Moreover, by the time honey in quantity begins to flow in, the hive should be packed with bees. The income will then be placed in its most natural position, *i.e.*, above the brood in the supers. Once let the brood-chamber be clogged with honey to the exclusion of brood, and it requires more than ordinary management to repair this initial mistake, be the season ever so good. The great desideratum for securing surplus is a powerful stock of bees, and although I like each stock to work out its own individual course, there are others who prefer to amalgamate—on the co-operative principle—the progeny of two or even more queens in a common super to secure a big "take" from one hive. The "Wells" system is a type of this principle of working, but in this case two stocks are placed in a large hive divided in the centre by a perforated close-fitting dummy board. This system, when properly carried out, has given excellent results. "Doubling" is another mode of attaining a like result. In this case two stocks are used; from one all the brood and combs are taken—after removal of the bees—and given to the other in a hive above its own brood chamber, thus giving it a double set of combs and brood. As fast as the combs are vacated by the brood and filled with honey, they are emptied by extracting and returned. A much better plan, however, to my mind, is by storifying thus:—When the stock hive is filled with brood, place a second set of combs above; the queen and bees at once take to these, and when both are fairly filled with brood and bees put on the excluder zinc and add a third chamber of combs for surplus, adding others if necessary.

In giving additional supers, always raise the first one up, and place the second beneath. Do this when the one to be raised is three parts filled and sealed over; this leaves a vacant space, so objectionable to bees, between their brood and stores, and nothing tends to prevent swarming, and offers so large an inducement to bees to work hard, as a vacancy in their hives.

If extra fine honey is wanted for show purposes, select clean white virgin combs that have never been used for breeding. Combs discoloured with age and dirt cannot but lower the quality of the honey in the eye of an experienced judge. For ordinary purposes it is, of course, a matter of less importance, but where the finest grade is desired, every care should be used to secure a fine sample.

One thing always to bear in mind where honey is wanted is that single weak stocks are useless, but by uniting two or three a few weeks in advance of the honey flow, a profitable stock may be obtained and a harvest saved. As to the question whether shallow or standard frames are preferable for storifying, I myself use shallows only, and find that they are more readily sealed over, that less heat is necessary to keep them warm, and that, consequently, bees takes more quickly to them, and are less likely to leave them, should a cold spell unexpectedly occur. A box of ten shallow frames hold well on to 40 lb. of honey, while standards will hold about half as much again; but in a large apiary, where a lot of lifting has to be done when removing supers, a box of shallow frames will be found quite heavy enough for pulling about.—*Thornton Heath.*

(To be continued).

THE QUEEN BEE.

A correspondent sends us a cutting which reads as under:—

Bees and their ways are of unfailing interest, and stories about them are without number. The Rev. W. T. Adey, of Kingsbridge, is responsible for the following:—"A

son of the Marquis of Salisbury has a great love for bees, and finding one of his hives queenless, he sent an order to Welwyn, the nearest town to his father's beautiful estate at Hatfield, for a queen-bee, and asked to be informed of the probable time of its arrival. The bee-master, wishing to serve his distinguished customer with all promptitude, sent off the bee by the next train, and wired to Hatfield : 'The queen will arrive by 3.40 this afternoon.' When the young lord reached the station he found the placed thronged with people. The telegraph clerk had jumped to the conclusion that her Majesty was paying a sudden visit to Hatfield, and as he was unable to keep such an important telegram to himself, the news spread like wildfire—'The Queen will arrive at 3.40 this afternoon.' Great was the disappointment of the people when they discovered that the only queen to come was one that the young lord could carry home in a little box in his waistcoat pocket."

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*" *(see 1st page of advertisements).*

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

REFUSED SUPER-FOUNDATION.

"WHOM TO GET OUR FOUNDATION FROM."

[2482.] Seeing how your "hints" in the right direction are persistently disregarded, and that the proverbial "red-herring" is appearing in this controversy, allow me to say that out of a total of between *three and four thousand* refused sections which I and my neighbouring bee-keeping friends had in 1894 and 1895, not a single sheet of flat-bottomed foundation was used. The letters of your correspondents (2473, p. 155) and (2477, p. 165) are, without being intended to do so, introducing flat-bottomed foundation as the cause of refusal, and, if regarded seriously, may be the cause of doing great injury to bee-keeping prospects for the coming season of 1896. Had this controversy begun at the end of last season, and thus had time to impress itself on foundation-makers, I am satisfied one and all would have avoided the true cause of refusal, viz. :—*the lubricant used in the manufacture.* But instead, it only commenced when a large quantity of foundation had already been manufactured for 1896, and letters such as are now appearing in your pages may unfortunately induce manufacturers to put off the correction of the plain true cause of refusal until 1897. To put some plain facts before both bee-keepers and manufacturers, let me say I have since this controversy commenced received offers from Ireland, England, and Scotland, to supply me with super-foundation, and guaranteeing purity and satisfaction with these offers, yet I am unable to determine from whom to get it ; and why? Well, as a matter of fact, I was obliged to decline some of those offers without giving the real reason for my refusal, which was that they came from some of those manufacturers who were actually themselves named as having supplied the refused foundation to others, and yet offering a guarantee of satisfaction to me for 1896! It is plainly obvious that this matter has not yet impressed itself as it should on manufacturers, and I am just as satisfied that when it has done so that they will in their own interests, and in the interests of bee-keepers, cheerfully do their best to correct it. Don't let them say "Let those manufacturers to whom it applies take it to themselves and act on it." It may surprise them and the public to know that a considerable number of the most prominent advertisers in the *Bee Journal* are among the *named*, and that by the confidential interchange of experiences by representative bee-keepers they and their friends are able to avoid those who supply the refused foundation.

Let manufacturers bear in mind that this coming season of 1896 will be a year of trial for them. Every bee-keeper in the kingdom will have each his special attention centred on this particular point, and each now competent to judge for himself ; and so, as "it is never too late to mend," let them even now for 1896 try and restore the want of confidence and doubt that every bee-keeper will have in offering super-foundation to his bees. Let manufacturers realise that they may be just as great enemies to successful bee-keeping as foul brood or bad seasons, and let them offer to their friends such foundation as may insure a successful result this season, and give a satisfactory answer to the question all bee-keepers are just now asking—"From whom are we to get our foundation?"—T. KIRWAN, *co. Galway, Ireland.*

REMOVING SURPLUS HONEY.

[2483.] In reading the letter of "Self Taught" (2476, p. 164), in last week's B.J., I felt that his kindly-expressed wish as to the "coming season" was hardly likely to be fulfilled if "immovable plinths" were the main cause of trouble in taking off supers, and that "easily removable plints" were a *sine qua non* in successful bee-keeping. Before starting in

the pursuit, I made careful inquiry as to the best hive for general use. In thinking the matter out further, I also concluded that uniformity in body-boxes, roofs, and supers was a desideratum, nor did I forget that *water-tight* plinths were indispensable in good hive-making. With considerable experience of making water-tight structures in wood, I saw that a plinth, "easily removable," is not likely to keep out wet; moreover, to be waterproof they must be fixed on with good stiff paint and firmly nailed or screwed on the part to which they are attached. This done it would be impossible to remove them without damage.

I think that the latter of the two causes referred to by "Self Taught" is most to blame, viz., "trying to do without excluder zinc." I would also suggest that lack of room in supers, as well as in brood-chambers, was a contributory cause of the "brace combs" complained of. My own experience, and that of others of my acquaintance, is that hives accurately made should be with size to allow ample room ahead of the requirements of a colony. The writer has used for years a double-walled one, having its outside dimensions 24 in. by 19 in. and frames with a $\frac{5}{8}$ in. thick top-bar, $\frac{1}{2}$ in. sides, and $\frac{3}{8}$ in. bottom bars made to leave a $\frac{1}{4}$ in. space at both sides of hive; and when supers are on a $\frac{1}{2}$ in. clear space between excluder zinc and bottom bar of frame above. Propolisation to the extent of making supers difficult to remove is a thing never met with under the above conditions. As to the use of vaseline, I can only smile at the idea of anointing lavishly sides of hives, tops, bottoms, and sides of frames.

I agree with "Self Taught" as to the conflicting advice given at times on bee-keeping matters and statements which look like truth, hard to reconcile with other equally feasible advice in an opposite direction; but by sticking to Cowan's "Guide Book," "Self Taught" will find himself (as I have done) pretty safe under almost any circumstances that are likely to arise in bee-keeping.—A West Cumberland Bee-Keeper, *Parton, April* 27.

THE INCIPIENT STAGES OF SWARMING.

[2484.] On the 24th inst. I examined nine hives—almost all in my apiary—and I was struck by what seemed to me upon reflection to be one of the earliest signs of swarming, though I have never seen it mentioned in print.

The hives then were filling up well, and fresh honey was being somewhat crowded upon the brood; but, as I keep down drone brood, I only observed hatched drones in one hive. The bees were very quiet, and easily managed without a single sting. But what struck me so forcibly was that in several hives the queen was found perambulating the edges of the combs or passing through a winter passage. In only two hives did I discover queen-cells formed, and in each case without an egg. But in one case (the hive in which I saw a few drones) the queen was actually taking her walks round one of these queen-cells.

The inference I drew was that the restriction of the number of cells for ovipositing sends the queen on her search, and this brings her just where the queen-cells are placed, so that she lays in these cells, not from choice, but from necessity.

I am aware such a supposition would not account for the presence of queen-cells ready to hand. But I am not sure that a similar hypothesis would not be sufficient. In your issue of March 5 (2435, p. 96) Mr. F. H. Taylor narrates his good fortune in obtaining cells circular in section by accident. Now suppose the workers in the incipient swarming stage want more room, what more natural than that they should attempt cell building in the larger interspaces? And here the comb edges are of such a character that a real extension of comb is very difficult. Solitary cells would be the result, and the queen cell in its first stage is just what would be produced in this way, and not built up of the highly-thickened walls that we see later.

The more one learns of bees the more one sees that their instinct comes into play of necessity, and hardly ever from anything like what we call intelligence. On this principle, I believe, we shall always be most likely to account for the phenomena of the hive.

If my first supposition be true, we may be led to expect that the first queens would be generally raised from the egg—a condition highly favourable to the development of good queens. And, of course, normally the queen herself deposits the egg where it is reared. Thus Nature's aim is, as always, the growth of the fittest. True, the loss of a queen must be made good by the bees of the best or readiest material at their disposal; but, in the main, Nature secures the best queen-mothers under the conditions of the swarming impulse, and in the great spring flux of all animated creation.—S. Jordan, *Bristol, April* 27.

AN APOLOGY

AND AN APPEAL TO SCOTTISH BEE-KEEPERS.

[2485.] There is nothing more gratifying than to find that one has filled a little niche of usefulness in the great temple of labour, and that even a sacristan is missed from the grand cathedral, with its magnificent buildings, splendid services, gorgeous adornments, and endless retinue of bishops, deans, archdeacons, priests, &c. I was much pleased to see that various correspondents whom I am proud to count as personal friends missed my fragmentary and erratic contributions to your much-valued pages. Of course, they understand that bee-keeping with me, as with most of my acquaintances, is but a hobby and pastime. I have other duties which absorb

most of my time and strength, and to which I mean in all loyalty ever to give my first and best application. All the same, a country minister is the better of a hobby; it makes him human, and brings him in line with the life and interests of his parishioners. I regret, however, that an exceedingly busy winter professionally has hindered me from fulfilling the kind requests of my friends, and lifting my pen in the interests of the good old craft. But if I have not been writing I have been speaking, and, I trust, to some purpose. I have delivered a course of lectures in Kirkcudbright and also in North Ayrshire, which have been splendidly attended, and much enthusiasm evoked. I hear of inquiries in Midlothian and Fife; and Lanarkshire will doubtless in time complete the excellent beginning she made last year. But we must organise, organise, organise. Will not some of the influential old hands come forward and help us now to resuscitate the S.B.K.A.? It is not so much money as men and personal effort we need at present. Who will step out in front? and we will follow and fight to a man for the old county's honour and interest? — ROBERT MCCLELLAND, *The Manse, Inchiman, Renfrew.*

FOUL BROOD AT HEATHFIELD.

[2486.] I am greatly interested in Mr. H. Neve's remarks (No. 2481, p. 167) regarding foul brood in this district. His statement comes as a revelation to myself; more especially after having some two years since (before finally deciding to move here), written expressly to him to know if he could tell me if foul brood existed in the neighbourhood. He then kindly replied to the effect that he knew of none, unless it was one solitary and doubtful case that had been brought to his notice.

Had he then given such an alarming report, it is more than likely I should not have moved here; though I must say I am now perfectly satisfied with the change; and with regard to bees cannot take such an alarming view of the situation as he appears to do. I am happy to say my own apiary is free from disease, and being in a somewhat isolated spot, with ordinary precautionary measures, I think there is not much to fear.

I must infer that Mr. Neve, having himself advertised stocks for sale two years ago, has only recently acquired this information as to the diseased bees around him. My own transactions with local bee-men, who are noted for their scarcity in my part of the parish, have been more satisfactory, as I have so far come across nothing but healthy stocks. I am about two and a half miles from Mr. Neve in a bee-line, and must give the matter a more careful investigation before I can admit that the disease is so general as he evidently considers it. Nevertheless, I trust you will kindly allow me to say that I can entertain no more orders for bees to be supplied with combs and brood while the disease is supposed to exist in my neighbourhood.— SAMUEL SIMMINS.

FUEL FOR BEE-SMOKERS.

QUIETNESS IN MANIPULATING.

[2487.] I see that some readers of B.J. have trouble in getting brown paper to burn well; I used to be bothered with the same thing till a friend gave me his plan, viz., dissolve a teaspoonful of saltpetre in a pint of water, steep the paper in it, then let it dry and use as wanted. Any kind of brown paper answers equally well. For myself, I use very little smoke, and believe in quiet treatment when manipulating. In fact, I have not had to use the smoker this season so far. When bees get in the way I use a feather dipped in carbolic acid solution. There are, of course, times when the smoker must be used, such as on days when cold dry winds are blowing, between the dates when fruit bloom is over until the white clover comes in, and with it honey-income. My bees are mostly Ligurian hybrids (first cross with native drones). I find them no more difficult to handle than natives. This is not new, but may be advantageous to some to know how I manage my bees, in case you have a spare corner in your valuable columns.— O. KNIGHT, *Stonehouse, Glos, April* 26.

CURING FOUL BROOD.

ANOTHER CASE OF HARDSHIP.

[2488.] I am very much obliged for your prompt answer as to "foul brood," received this morning.

I intended taking measures this evening had I not heard from you, as I was almost certain it was a case of "foul brood." I have read carefully all the instructions given in Mr. Cowan's paper in the B.B.J., and the only difficulty I have is in not knowing whether I need follow those instructions in the case of all the hives, several being as I think very slightly affected. In some cases I can see but one or two larvæ, yellow looking amid frames of apparently quite healthy brood, and I am still feeding all stocks with the "naphthol beta," although some are quite ready for supering; in fact, I have supers on some. A little further advice as to these points would be very useful, as it is quite a new experience to me.

I have kept bees for many years and have been most successful, but the risk of "foul brood" alters matters most considerably. I have examined all my stocks (20) and I know I shall have to deal with seven of them according to your instructions, *i.e.*, treating them as swarms. Even then I suppose it may break out again later on. I have been most careful in using preventives and in cleaning

and disinfecting hives, &c., but apparently to no purpose, for there are to my knowledge cases of foul brood within a mile; and skeps that bees have died in are allowed by the cottagers about here to stand empty on their stands, and thus, by attracting bees, cause further mischief, no matter how careful I am with my own bees. It is really a terrible curse, and I hope that something will be done by the Government to stop this evil, otherwise what would be a lucrative and pleasurable industry will be impossible. I feel confident I can cure it for the time being, but there is always—for the reasons I have stated — the disagreeable probability of its showing again. Would it be advisable to use the frames again if I boiled them, say, for fifteen minutes?—E. C. S., *April* 24.

[The publication of cases like yours cannot fail to strengthen the hands of those who are seeking to obtain powers for dealing with the evil complained of, and as you will observe by what appears in our columns, efforts are being made by bee associations in the same direction. We are confident that the remedy will come, and in the meantime such precautions as you are taking will keep the mischief within bounds.

If the seven stocks known to need removal from the combs are dealt with as we advised, good results may be confidently expected.

Frames boiled for the time named may be safely used again.—EDS.]

Queries and Replies.

[1458.] *Re - Queening Old Stocks.* — I have had less than two years' experience in bee-farming, and anxiously seek to do the right thing. I am, therefore, asking help and advice, if you would kindly assist me in the following?—I have four stocks in frame-hives, numbered 1, 2, 3, and 4, respectively. No. 1 having swarmed in July last year has a queen less than one year old. The queens of Nos. 2 and 3 are each four years old, while No. 4, which is rather weak, has a five year old queen. Should No. 1 send out a swarm—as I think likely, for it is "boiling over" with bees and if I examine the combs after swarm has left and find two or three good queen-cells, may I cut out two and give a cell to Nos. 2 and 3? If so, how many days after swarm leaves should this be done? Also how long a time should the old queens have been removed from hives before putting in the cell? Your reply will oblige, as I am anxious for young blood in the hives.—A. BRIDGES, *Bradfield, Essex.*

REPLY.—The old queens should be removed as soon after the swarm leaves as the queen-cells have been examined and found all right. About the sixth day afterwards will do for inserting the queen-cells, but in the meantime do not destroy the old queens until the safety of the young ones is assured.

[1459.]—*Sugar Candy for Bees.*—I beg to enclose what I—on page 140—call "brown and white sugar-candy," as you seem to be somewhat puzzled with the names I used. I understand there is some candy darker still in colour. Have you seen such?—RICHARD M. LAMB, *Burton Pidsea Rectory, Hull, April* 20.

REPLY. — Candy sent is that known as "rock candy," the common sugar-candy of the confectioner, and appreciated by children as a sweetmeat, but entirely unfit for bee-food. In fact, unless exposed in a damp atmosphere—or where the internal moisture of the hive could reach it—we don't see how bees could make any impression on such candy, so far as carrying it below. Before the art of making soft candy became known to bee-keepers, we used the "barley-sugar" of the sweetmeat shop, and as this possessed the quantity of deliquescing when exposed to the air, it answered fairly well, but "rock candy" we have never heard of as bee-food.

BEE-KEEPING IN CALIFORNIA.

INSANITY OF BEE-KEEPERS; WHAT MAKES LOW PRICES ON HONEY?

[As bearing upon the point raised on p. 163 of our last issue, we here print an amusing but instructive article from a Californian contributor to *Gleanings*.—EDS.]

I wish to make a few remarks before I say anything. This is not my usual style, for I generally "pitch into" my subject just as I used to pitch into the river, when I was a boy, whether it were head or heels foremost.

If a merchant is making money on his business, he does not blow about it; neither does he publish it in the papers, and scatter it broadcast over all the land. If an investor in any kind of stock sees a large amount of money in it he quietly buys up all the stock he can get, and says nothing about it. And so through all business circles, through all trades, professions, and occupations; the successful man is as dumb as an oyster. The time is out of joint, and we may well pause to consider our situation, and look around for a remedy. The normal condition of bee-keepers at the present time is insanity—a state of actual, acute, and rampant *insanity*.

The successful bee-keeper is not like the other business men noted above. The greater his success, the wilder and longer he will blow his horn. In fact, his horn seems to be a "harp of a thousand strings." If one is at rest, a hundred more are in sonorous motion. He seems to take delight in teaching his neighbours, acquaintances, and even strangers, "how to do it." I know from experience that this passion for teaching bee-keeping is not con-

fined to publishers, supply-dealers, or queen-breeders, whose interest is superadded to their love of the calling and this characteristic mania for spreading it all over the land. Why this insane and suicidal course should be pursued I cannot tell. There is something in the pursuit itself—something in our passionate love for it—that makes us proud and happy to tell and teach it to others. We are like the victims of animal magnetism, or hypnotism, as it is now called. We are under the will of a master whom we cannot resist. Now, here is just where the insanity comes in. Every 1,000 lb. of honey that is produced—in excess of the year before—brings down the price of honey. Every new bee-keeper who is started in business brings down the price of honey. Why, then, are we insane enough to start them? Our teachings and our figures showing large gains, do the business, and a rival is raised up by our own hands to compete with us in the same market, with a product just as good as ours? But although I know it is so, I never *could feel* that a bee-keeper was a rival of mine. But he is to all intents and purposes; for if I had no rivals I could now get a dollar a pound for honey. It was once two dollars on this coast; and it is within the memory of living men when it was 50 cents in the markets of the Eastern States. What reduced it to its present insignificant price, but an influx of amateurs into the calling? An amateur soon becomes a proficient, when there is money ahead of him. If this mania were only confined to those whose interest it is to make more bee-keepers, there would not be such an enormous increase in their number. For one *they* make, bee-keepers themselves make a hundred. Even I—*Skylark*—when I ran short of undeveloped intellect, did some preaching to an audience of one on this subject, thus:

"Yes, friend Rollins" (he was rich, but still had an itching palm for the almighty dollar), "bee-keeping is better than a gold mine; for after you get the mine, and put on it and in it thousands of dollars, you don't know when your lode or vein may run out, and leave you with thousands of dollars' worth of expensive machinery on hand. You have a large rough lot of mountain land covered with black sage—the best pasturage in the world for bees. What would think of a man who had thousands of acres of good pasture for horses and cattle, and not a single head of stock in it?"

"Well, *Skylark*," said he, "I declare you have opened my eyes. I never looked at it in that light before; but I see clearly now that I am losing money."

"Losing money! I should think there were thousands of dollars going to waste on that land every year."

"Well, *Skylark*, give me an idea of the probabilities of bee-keeping, that I may not go into it blindly. I want to see my way clearly to success. You know I have money to go into the business on a large scale. When a man wants to make money there is no use in playing with copper cents."

(*Conclusion next week.*)

TRADE CATALOGUES RECEIVED.

Jas. Lee & Son, 5, *Holborn-place, High Holborn* (*near the Inns of Court Hotel*), *London, W.C.*—This new firm are now established in their new town address, and their catalogue, now before us, though compressed within modest limits, is a complete list of all that is useful to bee-keepers. Mr. Jas. Lee's reputation as a practical hive-maker and designer of bee-appliances is too well known to need more than mere mention, and he, along with his son, seem to be making every effort to secure a share of public patronage. Amongst the specialties we notice Mr. Lee's excellent hive for sending out in the flat, and readily put together by purchasers.

J. S. Greenhill, 80, *Graham-road, Wimbledon, S.E.*—Mr. Greenhill's list of bee-goods for '96 is somewhat fuller than that of last year, several new patterns of hives being added, and everything useful included. His experience of twenty-seven years in all branches of the bee-business renders him a reliable man to deal with—no small consideration in these times.

A. W. Harrison, Potters Bar, Middlesex.—Mr. Harrison again issues his very complete catalogue as sent out in '95, which comprises not only a full line of bee-keepers' requirements, but quite a long list of other useful things, including poultry appliances, &c. We are pleased to note that *promptitude* in despatching goods is made a feature of in this case.

W. Dixon, 5, *Beckett-street, Leeds.*—Bee-keepers in the north will be pleased to know that Mr. Dixon's list for 1896 is now to be had on application. It is modest in dimensions, but nothing really required in the apiary is omitted; and the fact that Mr. Dixon combines successful honey production (as his prizes attest) and personal expert work in attending to apiaries will no doubt bring him customers who like to deal with one who makes his own bees a success.

[Further catalogues will be noticed in order as received.—EDS.]

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

G. D. (Long Eaton).—*Bees and Stale Comb-Foundation.*—Bees do not take quite so readily to foundation "a year or more old," as to that freshly made, which has an attractive aroma about it. Old foundation also usually becomes very brittle, and sometimes a sort of mildew gathers on its surface

after keeping a year or more. It is, therefore, advantageous to dip it in warm water before giving it to the bees; this, in a great measure, removes the two objectionable features of the stale article.

HARTWOOD (Chorley). —*Wild Bees.* — Insect sent is a male bee, native species; genus, *Andrena;* variety, *Fulva.* The *andrenæ* burrow in the ground, forming tunnels from 5 in. to 9 in. in length, in which the little cells are formed. They are commonly known as sand bees.

JAS. COWIE (Abbey Green, Lanark).—"*Dale" Honey.*—We must confess our inability to define quite what is meant by "Dale Honey." If, however, the term is well understood in the county of Lanark, it should cause no confusion to the members of your Association to have it so called in the prize schedule. For bee-keepers generally, however, the case is different, and we think that the use of local terms not understood by British bee-keepers generally—Scotchmen included, of course—is not advisable. And when if, as stated in your note, clover honey is meant, we see no reason whatever for making a change in name which can serve only to obscure or confuse the issue.

BEGINNER (Guildford). — *Transferring to Frame-hives.*—You cannot do better than follow the advice given to "Fox (Shrewsbury)," on page 150 of B.J. for April 9.

SUBSCRIBER (Isle of Man).—*Drone Comb in Super.*—It is quite usual for bees to build drone comb in supers where only "starters" have been given. They will store honey in such cells quite as readily as in worker comb.

T. G. BOROUGH (Milverton). — *Swarming (Artificial) from Skep.*—Full and detailed description of this operation appears in "Modern Bee-Keeping," price 7d., from this office.

J. M. LORD (Northiam).—"*How to Obtain Good Cider.*"—We will make inquiries as to the book in question, and reply next week.

GEORGE BREALEY (Grendon).—*Re-queening a Stock in April.*—The fact of the bees carrying in pollen points strongly to a queen being raised; and as there are now drones flying freely, it seems probable that your effort at re-queening will be successful.

CHAS. E. MOORE. — *Buying Goods from Advertisers.*—Any of our principal advertisers will forward a catalogue giving the terms upon which they deal with customers. Since you mention payment before delivery, we may say our "deposit system" is and may be used for this purpose if so arranged between the parties. Bee-appliances are rarely sent "on approval."

THOS. HUGHES (Woodstock). — *B.B.K.A. Certificates as Prizes at Shows.*—All communications for the B.B.K.A. must be addressed to the Secretary, 12, Hanover-square, London, who will supply information on the point mentioned.

A. H. (Caithness).—*Suspecting Foul Brood.*—Comb received contains nothing worse than a little mouldy pollen.

Special Prepaid Advertisements.

Situations, Publications, Bee Plants, &c. — Up to Twelve words, Sixpence; for every additional Three words or under, One Penny.

FOR SALE.—HIVES, standard size (15½" top-bars) and appliances. HUNKIN, Poole. L 55

CANADIAN BALSAMS, 25 for 1s., post free. Strong healthy plants. M. TURNER, London-road, Shrewsbury. L 51

WANTED, several Strong SWARMS, cash or EXCHANGE. Also Wanted, Built-out Combs. CHITTENDEN, Lydd, Kent.

FOR SALE.—Four Hives BEES, in bar-frame, wooden hives. Price £1 each. Address, Mr. WEBSTER, Barnham Junction, Sussex.

WANTED Chain or Cog EXTRACTOR. Good condition. Exchange 37s., banjo and cash. P. BENNISON, Scoston, Darlington. L 54

PURE BLACKS.—Healthy Natural Swarms, 10s. 6d., 15s., ready shortly. Please book early. Honeycomb designs a speciality. ALSFORD, Expert, Blandford. L 49

HONEYCOMB DESIGNS.—Send 6s. for Design 1896, or 5s. for any three letters. Post free, with every instruction. CHARLES COX, Brampton, Northampton. L 52

SIX STOCKS of BEES in ten frames. Hive at 25s. Six and seven bars of brood. Strong, healthy young Queens, 1895. Foul brood unknown. E. PHILPOTT, 18, Bedford-road, Hitchin, Herts. L 53

FOR SALE.—Well's HIVE, by Blow. Holds 20 frames in body, 40 in supers. Shallow or standard, with lift and section crate. Apply Rev. A. P. JOLLYE, Aslacton Vicarage, Long Stratton, Norfolk. L 56

FOR SALE, OBSERVATORY HIVE, three Standard Frames, vertical, oak, 20s. Six SHOW-CASES for six sections, 1s. 6d. each. W. H. JENKINS, Brynderwen, Sketty. L 47

FOR SALE, or will EXCHANGE for Safety Bicycle, two new "Wells" Hives on the "W.B.C." plan, fitted with Non-swarming Chambers to prevent swarming; fitted up complete. H. SEAMARK, Willingham, Cambs.

OBSERVATORY HIVE FOR SALE. Takes four Standard Frames; made of laburnam wood, polished; has taken First wherever shown. A beauty. Securely packed and put on rail free for £2. REID, Carnock, Dunfermline, N.B. L 48

"HONEY AND ITS USES," 1½d.; 3s. 6d. per 100. Also "MEAD, AND HOW TO MAKE IT," and "VINEGAR FROM HONEY," each 2½d. Small sample bottle of Honey Vinegar, 7½d. Rev. GERARD W. BANCKS, The Green, Dartford.

FOUR double-walled HIVES, with lifts, cost 35s. each; two Wells with lifts, ost 35s. each; One 15-frame double-walled, cost 25s; Twelve Hives, various; Twelve Section Crates and quantity of 1 lb. sections; 15 doz. Standard Frames; 50 2 lb. Sections and two crates; 100 Metal Dividers; 2 Straw Skeps; 1 pair cold blast Bellows, all the above in first-class order, £9 the lot, or separate. JOSEPH COWAN, Bookwell, Egremont, Cumberland. L 57

Editorial, Notices, &c.

USEFUL HINTS.

WEATHER.—Since last we wrote the weather has been, for the most part, fine and bright, just a little too cool for bee-work to get into full swing, but good progress is being made, and we hear of a few sections being now nearly ready for removal. The only thing needed for a fine honey month is freedom from the cold winds so frequently prevalent in these islands at this season. For the rest, the month truly verifies the poet's description,

Beautiful May, with its lapful of flowers;

and with a few degrees of higher temp. it is quite safe to say that our bees will have a share of their sweets.

We again quote some particulars regarding "Weather Prospects in May," interesting and useful to bee-keepers, in which the *Graphic* says:—

"May is proverbially fickle so far as the weather is concerned, the month being favoured at times with bright, warm spells, which often give place to a period of cold, bleak, northerly winds, with a very dry atmosphere. May is, however, the sunniest month of the year, and on the whole the weather is usually very pleasant. With the rapidly-increasing power of the sun the temperature is rising quickly, the mean at Greenwich being 54 deg., which is 6 deg. warmer than April. The hottest part of the day is usually at two o'clock in the afternoon, the coldest at four o'clock in the morning. The average maximum day reading is 64 deg., and the minimum night reading is 44 deg. In May last year the shade temperature rose to 86 deg. at Greenwich, and this was within 1 deg. of the highest reading during the year. In two years out of every three the temperature during the month reaches 80 deg. or above; very occasionally, however, the highest reading does not touch 70 deg. No frost has occurred during May in the shade in the suburbs of London in any of the last three years, and on the average of the last half-century it has only occurred in two years out of every three. The absolutely lowest temperature recorded at Greenwich is 28 deg. in 1855 and 1877. The warmest winds are from the west and south, the coldest from the north. With a cloudless sky the average highest day temperature is 67 deg., while with an overcast sky it is only 54 deg. The warmest part of our islands is over the midland and southern districts of England where the mean for the month is about 54 deg. In the north of Scotland the temperature is, on the average, fully 6 deg. colder. In London the average sunshine is 40 per cent. of the possible duration, and it is generally rather more on the south and south-east coasts of England. The average rainfall at Greenwich during the last fifty-five years is 1·95 in. The total fall during last month in the neighbourhood of London was only about one-third of the average, and there is a large deficiency since the commencement of the year. There is a similar deficiency in nearly all parts of our islands."

TEMPERATURE FOR EXAMINING HIVES.—The receipt, during the last week or two, of rather more than the usual samples of comb containing chilled brood—in most cases supposed by senders to be foul brood—affords an opportunity for offering what may be a useful hint as to the temperature at which hives may be safely examined without harm to the tender brood in the combs. This, however, is a point upon which no hard-and-fast line can be laid down. To say positively that *no harm* will follow is perhaps going too far, seeing that to disturb the thriving warmth and "cosiness" of the brood-nest at all by parting the frames, letting out—so to speak—the warmth of the hive by lifting the combs, full of tender brood, and exposing them to the outer air, even for a couple of minutes, must be productive of possible harm, more or less, in some way. Suppose, for instance, after much disturbance of the hive, the bees happen to cluster a little closer when settled down again on their combs, it is quite possible—nay, even probable—that a patch of brood previously well covered by bees may be "left out in the cold"—especially if a frosty night follows—and so perish. We only name this as a probable explanation of some of the cases brought to our notice which otherwise cannot be accounted for. But so far as the temperature below which hives should, as a rule, be left severely alone—so far as lifting out frames of brood,—we should say 55 deg. Fahrenheit, and even then combs containing unsealed larvæ must not be exposed for more than *one minute* in the open air. Moreover, unless urgent circumstances necessitated it, we do not advise opening hives with the temperature below 60 deg. unless the position is sheltered from cold wind and bees are on the wing. If the fact is borne in mind that unsealed brood in its

early stages will perish if exposed for less than five minutes at a temperature of 65 deg., it should not be needful to give more cogent reasons for caution in this matter.

THE SEASON.—Early swarms are reported from several quarters. From Devon, we hear of "bees throwing off a magnificent swarm on April 23rd," while from Derbyshire a report comes that Mr. John Carrington, of the Avenue, Bakewell, had an excellent natural swarm on the 22nd of that month. Then we hear from our well-known contributor, Mr. H. W. Brice, that his "first queen was mated on or about the 15th of April last; this was a case of superseding an old queen."

(Remainder of "Hints" next week.)

BRITISH BEE-KEEPERS' ASSOCIATION.

QUARTERLY CONVERSAZIONE.

We again remind readers who purpose attending the Quarterly Conversazione which takes place to-morrow (Friday, May 8) at 5.30 p.m., that—as stated on p. 172—the meeting will be held in the "Council Room," 12, Hanover-square, W., instead of 105, Jermyn-street.

'Buses going westward up Regent-street pass the end of Hanover-street, quite close to the square.

HUNTINGDONSHIRE B.K.A.

The annual meeting of the Hunts Bee-Keepers' Association was held on the 11th prox. at the Town-hall, Huntingdon, Mr. A. W. Marshall presiding. Among those present were Messrs. J. Linton, J. Pearce, W. H. Woods, S. Woods, R. Brown, Allen, A. Sharpe, Howland, S. Watts, C. N. White, Mrs. Allpress, and others.

Mr. C. N. White, secretary, read the report, according to which the number of members had increased from twenty-seven to thirty-five. The report dwelt upon the fact that the Association—like the county of Hunts—was a small one, but they had plenty of enthusiasm, with good bee-keepers and good forage for bees in it. It expressed the opinion that the number of bee-keepers could be increased tenfold. But they could not do much with the funds at their disposal, and it was therefore thought advisable that an earnest appeal should be made to the Hunts County Council to grant the Association some pecuniary assistance, so that bee-keeping might prove a source of income to the farming interest.

The report and statement of accounts were passed.

After some formal business of a routine nature, the Chairman handed over the silver Challenge Cup to the winner for '95, Mr. W. H. Woods, of Hemingford. Mr. R. Brown, of Somersham, received a silver medal as second prize.

The Earl of Sandwich was then re-elected President, and the Vice-Presidents were re-elected. The committee, with the addition of Mr. Watts, were re-elected, as were Mr. Marshall (treasurer) and Mr. C.N. White (secretary), with Mr. A. Sharpe as assistant-secretary, and Messrs. J. H. Howard, R. Brown, and W. H. Woods as District Secretaries. Mr. Howard and Mr. Brown were also appointed representatives of the Association at the quarterly meeting of the B.B.K.A.

The meeting terminated with the usual votes of thanks.—(Communicated).

NORTHUMBERLAND AND DURHAM B.K.A.

The third annual general meeting of members was held in Lockhart's Café, St. Nicholas-square, Newcastle-on-Tyne, on April 25, Mr. J. W. Wakinshaw presiding. Amongst those present were :—Messrs. S. Dunn, J. Anderson, Coates, Wm. Penaluna, Hisco, R. Greenwell, J. R. Appleby, J. Ladbrooke, J. Atkinson, Clark, A. Surtees, J. N. Kidd, T. Gardner, T. Russell, G. Rochester, Bell, J. L. Dent, M. Riddle, T. Dixon, Robson, &c.

The annual report included a notice to the effect that an exhibition of honey will be held in connection with the Chrysanthemum show at Newcastle, November 18 and 19, 1896, under the auspices of the N. and D.B.K.A., at which valuable prizes are offered for competition.

A statement of the results of the past year's working, as furnished by various bee-keepers in Northumberland and Durham, was submitted to the Meeting, showing the number of colonies in each, average surplus of honey, &c. Mr. J. Youngman, Ponteland, headed the list with the following record :—

Number of Colonies (spring count), Seven.			
140 lb. clover honey at 8d.....	£4	13	4
335 lb. heather honey at 1s. 2d.....	19	10	10
Total receipts.....	£24	4	2
Less Expenses, £4. 10 9 ; Balance,	£19	13	5

Average surplus of honey per hive, 68 lb.

Besides the above results, Mr. Youngman increased the number of his stocks to thirteen by artificial swarming.

A letter was read from Mr. Fenwick, inviting the members to visit his apiary at Netherwitton, and Mr. Greenwell gave the members a similar invitation to Warkworth, and it was decided to arrange bee-keepers excursions to both these places during the summer of 1896.

The following officers were elected for the ensuing year :—Committee : J. G. Angus, J.

Atkinson, Geo. Gibson, Wilson Ritson, T. Russell, Councillor F. E. Schofield, and T. Gardner. Local correspondents : J. R. Appleby, Amble ; J. Anderson, Washington ; J. Brassell, Ushaw ; T. Brown, Forest Hall ; J. M. Balmbra, Alnwick ; J. Bruce, Belford ; W. Codling, Hartburn ; J. Cuthbertson, Bedlington ; E. Davison, Ryton-on-Tyne ; J. L. Dent, Burnhill ; R. Greenwell, Warkworth ; J. Ironside, West Hartlepool ; J. Ladbrooke, Boldon ; W. Pearson, Chester-le-Street ; G. Robinson, Greatham ; and J. Weightman, Whittingham. Hon. Treasurer : Joseph W. Wakinshaw. Hon. Secretary : J. N. Kidd, Windermere-street, Gateshead-on-Tyne.

At a conversazione held subsequent to the ordinary business, Mr. J. N. Kidd, hon. sec., read a paper on the "Preparation of Bees for the Heather Harvest," upon which an interesting discussion ensued.—(*Communicated.*)

GOOLE AND DISTRICT B.K.A.

The annual meeting of this society was held on Tuesday, the 11th ult, Dr. Arbuckle presiding over a good attendance. The following officers were re-elected : — President, Dr. Arbuckle ; vice-presidents, Mr. R. S. Schofield, J.P., Rev. W. H. Elmhirst, Messrs. J. Sutcliffe, J. Biggs, and W. Chester ; committee, Messrs. E. Wainman, W. Ramsey, T. Earl, W. Lambert, M. Milner, and G. Remmer ; treasurer, J. J. Wise ; secretary, A. Woodhead. The schedule of prizes to be offered to members of the society at the Goole Show, to be held on August 13, was considered, and it was decided to extend the classification, Dr. Arbuckle kindly offering to give the two first prizes for extracted honey, which it was proposed to make. Other business of a routine character brought a successful meeting to a close.—(*Communicated.*)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

[2489.] We are now in the merry month of May—the month of early swarms, which, according to tradition, are (or were) supposed to be worth a load of hay. When the old doggrel rhyme was first penned, loads of hay were probably either smaller in quantity or of less value than in '96. Be that as it may, however, we bee-keepers are always proud to be the happy possessors of the first swarm in the neighbourhood ; it augurs well for the healthy condition of the bees to have reached swarming point in May.

To those who have had, or may have, very early swarms this season I would offer a word of caution against letting them starve for want of food if cold weather should set in just after the swarm has been hived, or a sudden scarcity of income occurs owing to the particular yield of food from which a present supply is being gathered being "fed off" by sheep. The observant bee-keeper will, by timely feeding, keep the new colony thriving, and ensure a paying return later on when the clover and limes bloom.

In our own district forage is not much more advanced than it was a fortnight ago. We have had it dry all the time, and the grass crops are looking very "spindley" for want of rain and a warm growing atmosphere. Bees, however, have progressed notwithstanding the cold nights, and hives begin to show "full to the mouth" where the colonies are strong.

I was at Peasmore last evening, and meeting an octogenarian bee-keeper, I greeted him with, "How are the bees doing? Have you had any swarms yet, Noah?" "No," says he, "neither do I want any yet awhile." He then added, "I pities that poor little lot at Wicklot Copse" (referring to an early swarm a keeper had who lives in the wood); "I quite expects to hear that they are starved to death." My friend Noah has kept bees over sixty years and says that he scarcely ever remembers that very early swarms do much good.

Last issue of B.J. for April 23 gives a drawing of Mr. Meadows' new swarm-catcher. This compact "catcher" has the appearance of a useful appliance for the purpose. The springs at entrance allow of pollen-laden bees returning to the hive to pass in with their loads more easily than through the zinc, and when the contrivance is enlarged to take three or four frames, it will afford room for a good-sized swarm. Mr. Meadows exhibited a "catcher" at the annual meeting of the "British" on March 13, on which occasion we bee-keepers, at the request of the maker, criticised such weak points in the appliance as were, in our opinion, to be found in the catcher, and, as a result of the discussion which followed, possibly it is somewhat improved. But in any case bee-keepers will gladly welcome the production of an appliance that will relieve the interminable watching for swarms week after week during the months of May, June, and July in each year. The pay of a man to do the work of watching for swarms for several weeks will buy "catchers" enough for the purposes of a good-sized apiary. Has Mr. Hole made any improvements in his "catcher" for 1896? If so, perhaps our Editors can give an illustration.—W. Woodley, *Beedon, Newbury.*

HEATHER HONEY.

[2490.] I shall be glad if, in next number of B.B.J., you would give me your opinion whether there is necessarily any intrinsic difference between Scotch and Yorkshire heather honey. I ask, because I recently had some of the latter to sell, and seeing "Scotch Heather Honey" in several London shops at 2s. 6d. per lb., I tendered mine, but was met with the reply that Yorkshire heather honey was worth no more than clover honey.

To my mind this is ridiculous, but I thought I should like to see what you would say on the question. I have never been able to detect any difference between the two, myself; both are similar in flavour and appearance, and both are gathered from similar heather or "ling."—GROSMONT, *Eynsford*.

[There is no "intrinsic difference," other than that of quality, between heather honey, from wherever gathered. It is well-known, however, that some of the very finest heather honey is gathered in the Scottish Highlands, and, having gained a special reputation for this product, our Scotch friends, quite justifiably, make the most of it, from the business point of view. On the other hand, we have seen and tasted heather honey, gathered in the North of England, and in Wales, which would pass muster with competent judges as the "finest Scotch." But it is difficult to remove prejudice, and so, if strict rectitude on the part of producer and retailer is to be observed, we must admit there is something in "a name," and let our Scotch friends make the best of theirs. It would be interesting to know if the shop-keepers referred to are as careful in ensuring that the famous "Narbonne" honey —held in such high repute, and commanding a high price—is not "made in Germany." Anyway, it is pretty well known by bee-keepers that it is not gathered in Narbonne at all; Narbonne, like the equally famous Mount Hymettus, having practically ceased (as we are told) to yield honey of any but very ordinary quality indeed.—EDS.]

FLAT-BOTTOMED FOUNDATION.

[2491.] I have read with interest both Mr. Harrison's letter (2473, p. 155) and also Mr. Taylor's (2477, p. 165). My own experience is that bees will take to flat-bottomed or "Van Deusen" foundation as readily as to any other, provided the wax is to their liking, *i.e.*, *pure*. To my mind the whole point lies in that question, viz, purity of the wax. I have used flat-bottomed foundation for some years (Abbott's), and have never seen the slightest distaste shown for it on the part of the bees. As a rule the bees leave the bottom flat, and my own impression is that it is stronger both for hot weather and also for the extractor.

It may be that the foundation used by both gentlemen had been *lubricated* with some substance distasteful to the bees. Flat-bottomed foundation has one other advantage, viz., that it slips more readily than the natural-based into the saw cut of the top bar whether of the frame or the section.—W. WINTERTON, *Wellingborough, April* 30.

BEES "BALLING" QUEENS.

[2492.] Would some kind friend advise me when a hive should be manipulated in order to avoid getting the queen "balled"?

I know over-manipulation will do it, but when one goes to a hive—say, after an interval of three weeks—to see if more room is required or the *necessary* attention given, it is odd to find that the queen (a young one, and laying remarkably well) should be killed in three minutes, although I got the cluster in my hand and released her ladyship.

It seems odd that bees will go to any length in order to *replace* a lost queen. Why, then, are they so very ready to put her to death, and close on swarming time, too; or is that possibly an explanation of their over-zeal?—"B. ATTITUDE."

[It is perfectly impossible for any one to say with absolute certainty why queens are "balled"; but—apart from the balling of an alien queen presented to them without proper precautions—we think the main causes are untimely manipulation or awkward handling of combs in early spring, soon after breeding has started in earnest, or in the autumn, when bees are so sensitive to robbing. It is interesting to read the above rather plaintive appeal for a reason why "balling" occurs, in the light of the sort of protest (against our advice to avoid the causes of mischief stated above) made by a correspondent who handled his bees at all times and at all seasons, but had "yet to see a case of balling."—EDS.]

BEE PLANTS FREE.

[2493.] I again offer plants of Canadian Balsam free to any bee-keepers desirous of giving them a trial. They yield a fairly good quantity of honey and pollen. Borage is this year a failure with me, it did not seed well last season. Send address *plainly written*, and stamps to cover postage, to H. CRAWLEY, 250, *Canbury Park-road, Kingston-on-Thames*.

HANDY HOME DEVICES.

USING UP POLLEN-CLOGGED COMBS—CALICO COVERS IN LIEU OF "LIFTS."

[2494.] Will you kindly describe the "Taylor comb-leveller" (p. 159, April 16, B.B.J.), how it is worked, and where it may be procured?

Referring to pollen-clogged combs, I have made use of these for the last three seasons by cutting down close to the mid-rib, and giving

back to the bees. They are not built out so soon as foundation would be, but they save the expense of the latter, and it takes no longer to prepare than to wire foundation.

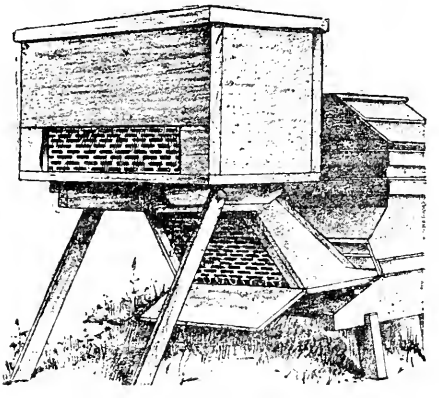
Calico Coverings for Surplus Chambers.—A piece of calico, made into a petticoat, 7 ft. 8 in. round (for W.B.C. hives) by 3 ft. deep, with a tape run through the top hem, will keep off the sun and throw off summer showers. To shorten it up, tighten the tape. The roof is placed on top, over all.—H. J. HAWKER, *Longparish, Hants.*

[We have not seen the American "comb-leveller" referred to, nor do we quite know how it is used, but as the object is to cut down the cells of drawn-out combs a quarter inch or more in depth, so that the bees may—in building them out to full depth again—form even and newly-built comb for the surface of capped comb in the finished section, a sharp knife practically answers the same purpose.—EDS.]

NOVELTIES FOR 1896.

TAYLOR'S SWARM-CATCHER.

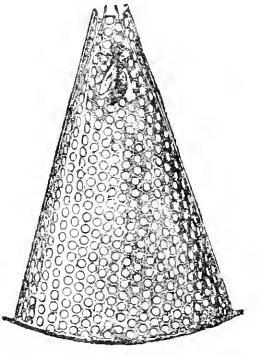
Referring to the device illustrated below Mr. Taylor says :—The box for the swarm is made to hold six standard-frames and is affixed to the front of the hive as shown, and can be used on any hive having an ordinary entrance. The bees enter by a series of short passage-ways each of which is fitted with a pair of fine springs similar to those used in the "Porter" escape. Pollen-laden bees thus enter freely with their loads while outgoing bees must pass throug the excluder zinc. When a swarm is coming off the queen and some bees



pass upwards through a similar row of springs to those fixed at the entrance but opening into the swarm-box above, and the queen, being confined therein, is joined by the bees of the swarm, which, finding themselves without the queen, return to the parent hive. The top of swarm-box is made to take off, so that the frames, previously fitted with full sheets of foundation, with swarm attached can be easily lifted out and transferred to hive, which should previously have been got ready for them.

TAYLOR'S CONE-ESCAPE.

This useful little escape has been invented to prevent bees entering hive-roofs fitted with cone-escapes, as is so common in the autumn. It is fitted with two small springs which



converge towards the outlet, and when a bee passes out the springs close together again, and so prevent robber bees or wasps entering the hive again through the escape. One cone is quite sufficient for a hive, so far as effectually answering the purpose intended.

HONEY BOTTLE (REGISTERED).

The cut below illustrates a new 1-lb. bottle designed to take the place of the 1-lb. screw-cap jar for those who want a cheaper article. The glass rim of bottles is made of slightly rounded form, the "cap" being manufactured from a springy metal, so that when pressed it goes on with a snap, and is held firmly in its place.

If a thin cork wad is used on top it becomes absolutely air-tight, and will hold water when the bottle is turned upside down. It has also a wider top than the ordinary bottle, rendering the honey easier to lift out.

[All the above are made and sold by Mr. T. B. Blow, Welwyn, Herts.—EDS.]

Queries and Replies.

[1460.] *Damaged or Worn-out Queen.*—In examining my hives a fortnight ago I found one—which some weeks ago was very strong—quite weak, with few bees, though full of stores; comb a little mouldy in places, and very little brood. I reduced the number of frames, and cut out mouldy parts. A week ago I found my other hives had made great progress, having quantities of brood and eggs. The one first referred to was now weaker, with little brood, and few fresh eggs laid irregularly, sometimes three in one cell. I found the queen—a large, healthy-looking one—alone at the back of the hive. She walked on to my glove, and was very slow, and did not run down fast when placed on the top of the frames. There is no unhealthy appearance about the hive. 1. Should I remove this queen and raise another, and what do you think is the matter? I have put in a good frame of brood from a strong hive. 2. Is there any way of preventing swarming without constantly examining the hives, and cutting out queen cells? I did this every few days last season, and yet the bees wasted all their time trying to raise queens and swarm, though they had plenty of room, sections on, &c. 3. Would it do to place a queen-excluder between the frames and door of the hive? only then the drones could not come out. Would this matter? My queens are all in their second year. I have four hives, and don't want more. I thought of doubling the strongest to get plenty of honey to extract, and of having sections on the others.—(Mrs.) Lloyd Edwards, *Llangollen.*

Reply.—1. The queen has either become "worn-out" or been damaged in some way. In any case, she is worthless for breeding purposes and should be removed at once. Five or six days later examine the frames and cut out any queen-cells found. Next day insert a comb containing eggs and very young larvæ from another stock, and allow the bees to raise a queen therefrom. 2. The only thing to prevent swarming—beyond what has appeared recently in our pages on the subject—is to give room early, with shade and ventilation in hot weather. 3. Your plan of using excluder zinc to prevent swarming won't do at all.

[1461.] *Comb-leveller for Sections.*—With reference to the article on p. 158 of Bee Journal of the 16th inst. on "Drawn-out Combs for Sections," would you please say what sort of thing the "handy comb-leveller is?" Again, on p. 159, first column, first paragraph, comb-foundation in two pieces is recommended for insertion in each section. 2. Would you please state how this is accomplished? 3. I have 160 unfinished sections in which the honey has granulated (an unusual circumstance with me). Is there any means of getting rid of granulated honey, and so preserving the sections?—R. J. Park, *Elgin, N.B.*

Reply.—1. We don't quite know what sort of an implement the "American comb-leveller" is, but, as the object aimed at is simply paring-down the combs to about two-thirds their present depth, a very sharp knife answers the purpose fairly well. 2. It is a common practice among Americans to fix a narrow strip of foundation along bottom side of sections as well as the one at top; the bees join the two pieces of foundation, and thus ensure a comb attached to the wood top and bottom. 3. The only way of utilising granulated sections is to melt them down and lift the wax off the liquid honey in a solid cake when cold.

[1462.] *Disinfecting Hives.*—I last autumn destroyed a colony that was affected with foul brood, but owing to the separate parts of outer-cases of the hive (a "W.B.C.") not fitting closely the bees from my other hives robbed the dead ones before I could remove them. (The winter before last a mouse made its nest between outer and inner boxes of another hive also made by a prominent manufacturer of bee-appliances.) What had I better do with supers, sections, and shallow-frames in the way of fumigating? I find at present only one colony affected slightly with foul brood, and as the queen is old, I have burnt it. My six others are doing well. I fancy the foul brood has come from a neighbour who has a large number of old boxes and has neglected his bees and allowed them to die. But I cannot tell. I do not think there would be any objection in this neighbourhood to the visit of an expert to ascertain where foul brood exists, but no steps appear to have been taken owing to the want of a County Association. Poor people lose their bees and cannot tell the cause, and most of them do not know that there is such a thing as foul brood. I should be happy to circulate a leaflet amongst my bee-keeping friends on the subject until we get practical help.—W. S. Trapp, *Marsham, Norfolk.*

Reply.—We should burn all frames and sections used on a diseased stock and treat the supers as directed on page 92 of our issue for March 5 last. It will be needful to use precautions against infection with a hot-bed of disease close by.

[1463.] *Bees Dying Outside Hives.*—By the same post I send you a few bees, part of a larger number which are dying outside one of my hives daily, very much after the manner described on page 568 of Cheshire's "Bees and Bee-keeping," as "running upon the ground, constantly stopping to rub their legs, antennæ, and bodies, with a nervous uneasy movement, and then, collecting into little knots, continue these convulsive twitchings

until they die." There is one thing, however, about the colony, the bees are very strong in number and vigorous in action, going in and out apparently loaded; so much so, I can hardly understand such activity to exist if there is disease. I first noticed this three weeks ago, and then transferred them into a clean hive, putting in some naphthol beta, and feeding them with medicated syrup; since then not so many bees have died. I should, however, like to be satisfied, and if you by examining the dead bees under the microscope, you will greatly oblige.—S. HEAD.

P.S.—There does not seem so much appearance of convulsions now as at first, nor as stated are the bees dying in such numbers.

REPLY.—There is nothing in bees sent to indicate disease. The symptoms described above point to what is sometimes termed *bee paralysis*, the remedy for which is to requeen the stock. We would, however, not follow that course till the effect of a few weeks' warm weather has been tried. It is quite possible the mischief complained of may cease in a week or ten days.

[1464.] *Loss of Bees in Spring.*—I have three stocks of bees, which I am told by an expert are "rather weak," owing to losing some after moving them in February. He said, however, they were perfectly healthy, rearing brood, and doing very well. But since his visit (about a fortnight ago) I have noticed bees from the strongest hive lying dead on the ground in greater numbers than I care to see from a hive already weakened. There were many fresh ones this morning, and some crawling slowly about, unable to rise, one or two with pollen on their legs. Can you give me any reason for this? The hives have a southerly aspect, and are sheltered from cold winds, and they get all the best sun, though not all the day, owing to some trees on the west side. I shall be glad to have your opinion. — L. C., *Boldmere, Birmingham, May* 2.

REPLY.—See answer to S. Head, No. 1463, above.

[1465.] *Fertile Worker in Foul-broody Hive.*—Enclosed herewith is a portion of comb taken from a hive which has been queenless since October, 1895. Kindly inform me through the B.B.J. if foul-brood is present, and also if the brood in the comb is produced by a fertile worker?—BRICKMAN, *Glasgow.*

REPLY.—The bees should have been added to another hive when found queenless in October last. Keeping a stock in that condition over winter would tend to develop fertile workers. The dead drone-brood occupying worker-cells in comb sent clearly proves that a fertile worker is present; and as in addition we find slight traces of foul-brood, the bees, combs, and frames should be promptly burnt —as not only useless but dangerous to keep.

NOT A BEE-KEEPER.

A correspondent who is a bee-keeper sends for our perusal a cutting from the London *Echo* of the 23rd ult., wherein one who is evidently *not* a bee-man writes to the editor of that journal thus :—

"I have a small garden stocked with flowers. My next door neighbour has a garden some 15 yards long by 8 yards wide, stocked with eight large hives of bees, two of them right close to my house. A fence 5 ft. high parts our gardens. The bees are a nuisance to me coming in my garden, also the house, taking the substance out of the flowers, so that they do not last as long as they should. What remedy have I?—WM. WARMINGTON."

We don't quite gather whether *our* correspondent intends himself to reply to the above query or asks us to suggest the remedy Mr. Warmington inquires for. We might refer him to the article which appeared in our issue of February 27 on "Muzzling the Bees," for nothing less than a muzzle will prevent the thieving bees which are also "a nuisance," from "taking the substance out of the flowers," unless he covers the "substance" up. Or suppose the gentleman injured got up a deputation to invoke the aid of the London County Council in procuring a "muzzling order for bees." How would that do?

WEATHER REPORT.

WESTBOURNE, APRIL, 1896.

Rainfall, ·31.	Sunless Days, 2.
Heaviest fall, ·15, on 14th.	Below Average, 53·9 hours.
Rain fell on 11 days.	Mean Maximum, 53·6°.
Below average, 1·27.	Mean Minimum, 39·8°.
Maximum Temperature, 63° on 26th.	Mean Temperature, 46·7°.
Minimum Temperature, 30° on 2nd.	Below average, 0·2.
Minimum on Grass, 23° on 2nd.	Maximum Barometer, 30·58° on 22nd.
Frosty Nights, 2.	Minimum Barometer, 29·74° on 29th.
Sunshine, 149·7 hours.	
Brightest Day, 22nd, 11·3 hours.	

L. B. BIRKETT.

BEE-KEEPING IN CALIFORNIA.

INSANITY OF BEE-KEEPERS; WHAT MAKES LOW PRICES ON HONEY?

(*Concluded from page* 179.)

"No, copper cents don't count up fast enough. How many colonies would you begin?"

"Well, *Skylark*, I will buy a thousand hives, as this promises to be a good year—say, a thousand."

"Well, if you never loose any bees, and double every year, the rate of increase and amount of honey—100 pounds to the hive—might be as follows :—

	Colonies.	Increase to	Honey, lb.
1st year	1,000	2,000	100,000
2nd ,,	2,000	4,000	200,000
3rd ,,	4,000	8,000	400,000
4th ,,	8,000	16,000	800,000
5th ,,	16,000	32,000	1,600,000
6th ,,	32,000	64,000	3,200,000

"The sixth year, according to this, you would have 3,200,000 lb. of honey. At even ten cents per pound this would be an income 320,000 dols. a year, besides the 310,000 dols. made in the preceding five years. Cæsar Augustus! What a world of bees and honey! Why, you could control the honey market of the world; establish houses for its sale in all the principal cities in Europe and America; buy up all the honey that is offered below your price, and then corner the market, and have it all your own way."

"*Skylark*, you are a brick. I never thought you had such extensive schemes in your brain. I see now it is only the want of capital that keeps you down, or you would be one of the richest men on the continent."

"Yes, friend Rollins, you say truly it is the want of capital that keeps me down. Just now I want a round 1,000 dollars. Can you lend it to me? It would be a great accommodation, and place me under great obligations to you."

"Well, *Skylark*—ahem!—er—*Skylark*—er—I have invested all my money except what I shall need in this business. It would be impossible, but I am very sorry."

Now, I knew his cheque was as good as gold, from San Diego to Puget Sound; but just look at the meanness of the man. After I had put him in the way, and given him my full permission to make 320,000 dols. annually, besides the 310,000 dols. which he had made in the preceding five years—to refuse me the loan of a paltry thousand dollars! The deep ingratitude of some men is incomprehensible. Shall I give him a stunner, now, that will knock the stilts from under him, or let him go on and buy the 1,000 hives and lose his money? Mr. Editor, my undeveloped intellect pointed one way, and my kind benevolent heart pulled another.

"Rollins," I called out to him, as he turned to go away, "look here a moment."

"All right, *Skylark*, what is it?"

"Well, be careful about your speculation in bees, for there are many losses you are not aware of at the present time."

"Why, *Skylark*, I thought it was all plain sailing. I get the bees, and they work for nothing and board themselves—isn't that the idea?"

"That is all true in a good year—with a little skilled labour thrown in. But in a bad year—and bad years will come—you will have to feed two dollars' worth of sugar to each and every one of your colonies—amounting to 64,000 dols. I think it would be better for you to build a beet-sugar factory. A good factory could be built for 50,000 dols., and you could make your sugar cheaper than you can buy it. Oh, yes! then there is robbing. You must be wide awake when *that* begins, and it does begin with feeding. Once the robbers get a sniff of the fresh feed they will rob all the weak hives in the apiary. When they are finished, the strong hives will rise up in arms against one another. It doesn't much matter which whips—you are the loser, for millions of your bees are slain. Oh, yes! then there is foul brood that sweeps away whole apiaries in a single year—as virulent and as infectious as the smallpox—travelling through all the surrounding country, carrying death and utter annihilation wherever it goes. Losses also by death of queens, by fertile workers, bee-paralysis, diarrhœa, mumps, measles, whooping-cough, &c. But the worst of all is the toothache and earache. These coming in collision will cause the bees and sometimes the bee-keeper to dash themselves to death against the first post, tree, or rock they come to. Now let me tell you about the ravages of the moth-worm——"

"*Skylark*, you may stop right there. I have enough of bee-keeping."

"Well, but, Rollins, I am not done yet; for I haven't told you of the thousands of stings, and how to cure them."

"That's enough; I don't intend to get them, if I can help it. Good-bye."

"Good-bye, friend Rollins; but if you wish any other information on bee-keeping, always consider me ready to give it freely."

"I don't want it," he yelled back.

There is one (would-be) extensive bee-keeper killed anyhow. Yes, killed as dead as a salted mackerel. If all bee-keepers would give the same vigorous encouragement to every applicant for advice, honey would advance a 100 per cent. within two years, and more too. But friend Eugene Secor is not of my way of thinking. In *Review*, page 19, after giving us a very good article on the depressed state of the market, the adulteration of our product by middlemen, &c., he winds up by giving us two remedies as follows :

1. Produce only comb honey, and put it up in such "taking" packages that it will find its way on to the tables of those who can afford to pay for *luxuries*. That's what comb honey is, and always will be.

2. Encourage *small* bee-keepers (the adjective has reference to numbers of colonies).

Remedy 1 is a good one.

Remedy 2 stuns me. How encouraging *small* bee-keepers could tend to advance the price of honey, I cannot tell. Has friend Secor got it, too—that insane mania, common—yes, universal—among bee-keepers? Are we all mad? Is there not one sane man to call a halt in the manufacture of new bee keepers!

Mr. Editor, is there any proof now at hand—is there any tangible probability that you can point out—that we shall not all be in crowded asylums in less than five years? Here are my remedies :—

1. I will place friend Secor's first remedy, to produce only comb honey.

2. Stop, by every means in your power, the production of *distracted* honey, for that is the name by which it should be known now.

3. Discourage, by every means in your power, every *would-be* bee-keeper, even if you have to floor him with a skillet.

4. Let us get from some foreign country, or breed a race of bees, with long and fiery stings—a race with coiled-up, hidden stings, that they can dart out 1¼ inches into the amateur. This will settle *him*.

These four rules put into effective operation would advance the price of comb honey to 40 cents a pound in less than two years, and in three it would be 50 cents.—"SKYLARK" in *Gleanings*.

Bee Shows to Come.

May 27 to June 1.—Bath and West of England Agricultural Society at St. Albans. Bees, hives, and honey. Entries closed.

June 9 to 12.—At Eastbourne, in connection with the Royal Counties Agricultural Society's Show. For Schedules apply as below. Entries close May 22.

June 22 to 26.—Royal Agricultural Society at Leicester. Schedules now ready. Entries close May 1. All letters relating to Bee Department of above Shows to be addressed to Edwin H. Young, Secretary B.B.K.A., 12, Hanover-square, London, W.

July 1 and 2.—At Ramsgate, in connection with East Kent Agricultural Society's Show. Entries close June 18. Schedules ready shortly from Henry W. Brice, hon. sec. Kent B.K.A., The Apiary, Thornton Heath.

TRADE CATALOGUES RECEIVED.

Edmondson Bros., 10, *Dame-street, Dublin.*—This is a small but very compact list of bee-goods, nothing of real service being omitted.

E. J. Burtt, Stroud-road, Gloucester.—Another small but complete catalogue of twenty-four pages. We notice on page 2 that Mr. Burtt, being himself a practical bee-keeper, offers to give free advice on bee-matters by post if stamped envelope is sent.

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

W. C. HANNAFORD (Newton Abbot).—*Feeding Bees in May.*—If the "local bee-keeper"—from whom the stock has just been purchased—advises "giving a half-pint of syrup every night all through the month of May," he must—if experienced—have known the bees were very short of food. Otherwise, the giving of nearly two quarts of liquid food per week, with some natural income available, would have a dangerous tendency to fill combs with food which could with far more advantage be occupied with brood. A good stock, with an ordinary amount of stores on hand, should need little or no feeding during the month of May; especially in Devon, where apple orchards are so plentiful. But if stores are really short, half the quantity advised will be amply sufficient at this season.

ARTHUR LEWIN (Plymouth).—*The Novel Bee-Smoker.*—These cannot be got in this country; but, seeing that several inquiries similar to yours have reached us, we are making inquiry, and may get a few over to oblige such as desire to possess one.

H. PUGH (Bury St. Edmunds).—*Increasing Stocks.*—If your limited experience justifies the attempt to divide the bees for increase, as directed in our pages, you may try it; but it is simpler, and moreover safer, to increase by natural swarming.

CHAS. DAVY (London).—*Bees Dying outside Hives.*—See reply to S. Head, Query 1463, p. 186, in this issue.

GEO. WELLS (Aylesford, Kent).—We are unable to assist in finding out the address of the Mr. W. T. Joyse who omitted sending it to you when writing. Possibly this may meet the eye of the gentleman referred to, and cause him to forward the information sought.

J. E. RODEN (East Grinstead).—*Parasites in Hives.*—The parasite on bee received is not *Braula Cæca* but a larger insect, very seldom found on bees. Unfortunately the insect was accidentally lost before we had carefully examined it for identification, and in consequence we cannot say more unless another specimen is forwarded.

NOVICE (Oban).—*Bee-houses.*—If care is taken to make the window (or windows) revolve on a central pivot, so as to be instantly turned inside out, as it were, to allow for free escape of bees, the house as described ought to answer very well for the purpose, and should be of great advantage in your northern latitude. Sorry your letter got inadvertently overlooked.

W. A. FIELD (Grimsby).—*Age of Queen.*—Queen received is a rather diminutive adult one, but we cannot judge her age from the appearance.

PETER MCKIEHAN (Gareloch, N.B.).—*Using Raw Cane-Sugar for Bee Food.*—Raw sugar is not suitable for bee syrup, and when any other food is available, they will refuse it. We can only advise using up the syrup made from it by mixing with two-thirds its quantity of syrup made from refined sugar.

Special Prepaid Advertisements.

Situations, Publications, Bee Plants, &c. — Up to Twelve words, Sixpence; for every additional Three words or under, One Penny.

STOCKS, Nuclei, Swarms, and Queens.—Address, Rev. C. BRERETON, Pulborough, Sussex.

SWARMS for SALE, 10s. 6d. each, or 2s. 6d. per lb. A. FELSTEAD, Rempstone, near Loughborough.

SIX Strong Healthy STOCKS; bar-frames, 27s. DRYBURN, Albert-road, Heeley, Sheffield. L 67

FOR DISPOSAL.—Stocks BEES, straw skeps, on rail, 10s. JAS. WEATHERHEAD, Ely, Cambridgeshire. L 63

STRONG SWARMS, from good-tempered, healthy stocks, 10s.; sent in new skeps, 2s. extra if kept. Mrs. MAY, Parwich Hall, Ashbourne.

CANADIAN BALSAMS, very vigorous, 30 for 1s. Postal Order free. MORRIS, Rectory, Brook, I. of W. L 60

FOR SALE, several stones of splendid HONEY. MCKENNA, The Lodge, Margaret's House, Isleworth, Middlesex. L 61

FOR SALE.—200 lbs. Extracted Honey. Also Guinea Extractor. Apply J. W. DAVIES, Park Farm, Wallingford. L 62

WANTED.—MAN to assist in Apiary. Handy with tools. Particulars to W. SHEPHERD, Oxton, Tadcaster, Yorks. L 64

SWARMS Booked in Rotation, 3s. 6d. lb.; Skeps, 1s. 6d.; Stocks complete in Bar-frame Hives, 25s. WEATHERHEAD, Redbourn, St. Albans. L 58

EARLY SWARMS, packed and carriage-paid, 15s. each. REV. JARVIS, Stonehouse, Gloucestershire. L 59

20 SWARM CATCHERS, new, 4-framed, 5s. each, 6-framed 7s. 6d. each. Or exchange. H. SEAMARK, Willingham, Cambs. L 70

PURE IMPORTED ITALIAN QUEEN 7s. each. Cash with order. J. S. GREENHILL, 80, Graham-road, Wimbledon.

Prepaid Advertisements *(Continued)*

FOR SALE, 7 doz. 1 lb. TIE-OVER JARS of HONEY, at 7s. per dozen. Packing-case free and put on rail. WOODLEY, World's End, Newbury.

BEEKEEPERS should try PATERSON'S SCOTCH-MADE MEDAL HIVES and APPLIANCES. PATERSON, Pollokshields, Glasgow. L 11

LACE PAPER for GLAZING SECTIONS. 100 strips, 7d., 200, 1s. 2d., 300, 1s. 6d., 500, 2s. 3d., 1,000, 4s. Post free. Best quality. Neat patterns. W. WOODLEY, Beedon, Newbury.

PURE BLACKS.—Healthy Natural Swarms, 10s. 6d., 15s., ready shortly. Please book early. Honeycomb designs a speciality. ALSFORD, Expert, Blandford. L 49

HONEYCOMB DESIGNS.—Send 6s. for Design 1896, or 5s. for any three letters. Post free, with every instruction. CHARLES COX, Brampton, Northampton. L 52

FOR SALE.—"WELLS" HIVE, by Blow. Holds 20 frames in body, 40 in supers. Shallow or standard, with lift and section crate. Apply Rev. A. P. JOLLYE, Aslacton Vicarage, Long Stratton, Norfolk. L 56

HEALTHY STOCKS of ENGLISH BEES in first-class double-walled standard bar-frame hives. Grand working strains. Price moderate. MASON, Nunclose, Armathwaite, Cumberland. L 68

INDIAN RUNNER DRAKE and SIX DUCKS, prolific layers, hatched 1895, 5s. each, the lot 30s. Stocks of bees, swarms, and nuclei in season. ROBT. NESS, Certified Expert, B.B.K.A., Sproxton Park Apiary, Helmsley. L 69

"HONEY AND ITS USES," 1½d.; 3s. 6d. per 100. Also "MEAD, AND HOW TO MAKE IT," and "VINEGAR FROM HONEY," each 2½d. Small sample bottle of Honey Vinegar, 7½d. Rev. GERARD W. BANCKS, The Green, Dartford.

I AM now booking orders for NATURAL SWARMS of my well-known strain PURE NATIVES, 3½ to 4 lbs., 12s. 6d. each. Guaranteed healthy. Orders strictly in rotation. Few doz., clean, well-filled, and sealed. 1 lb. sections, 7s. doz.; 250 lbs. first quality, extracted, at 6d. lb. Tins free. C. WHITING, Valley Apiary, Hundon, Clare, Suffolk. L 66

CLEARANCE SALE. — "The Bee-Keepers' Text Book," by A. J. King, 2s. 6d., catalogue price 4s.; "Quinby's New Bee-Keeping," 3s. 6d., catalogue price 6s.; "The Bee-Keepers' Guide," by A. J. Cook, 3s., catalogue price 5s.; "Bee-Keeping, Plain and Practical," by A. Rusbridge, 1s., catalogue price 1s. 6d.; Foundation Fixers for fastening Foundation in Sections, 7d. each, catalogue price 1s. 6d.; Bingham Honey Knives, 1s. 9d., catalogue price 4s. 6d. Carriage paid to any part. "Little Wonder" Extractor, 5s., catalogue price 12s. Carriage forward. W. LEE, Hurdsfield-road, Macclesfield. L 65

FLOWERS, VEGETABLES, & HONEY

"HOW TO GROW FLOWERS FOR EXHIBITION." "HOW TO GROW CARROTS, PEAS, BEANS, POTATOES, &c., FOR EXHIBITION." "HONEY AS FOOD," &c.

LEAFLETS BY MOST ADVANCED SCIENTISTS.

By the distribution of these Leaflets better prices can be obtained by Bee-keepers, and any amount of first-class Honey can be disposed of.

Send P.O. value 1s. for Packets of Leaflets, &c., to T. HOLLIDAY, ASTBURY, CONGLETON.

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION.

The monthly meeting of the Council was held at 12, Hanover-square, on Friday, the 8th inst. In the unavoidable absence of Mr. Cowan, the chair was occupied by the Vice-Chairman, Mr. E. D. Till. There were also present the Hon. and Rev. Henry Bligh, Rev. W. E. Burkitt, Major Fair, Messrs. W. Broughton Carr, W. H. Harris, J. M. Hooker, T. I. Weston, and the Secretary (Edwin H. Young).

The minutes of the previous meeting were read and adopted.

Eight new members were elected, as follows :—

Mr. A. S. D. Arundel, Woodlands, High-road, Whetstone.

Mr. T. M. Busteed, Weybourne, Holt, Norfolk.

Rev. Edward Charley, Ince Vicarage, Chester.

Mr. Harry Cotton, 61, Hill-lane, Southampton.

Mr. J. T. Haynes, J.P., Milford, Hartland, North Devon.

Mr. H. Boswell Palmer, 219, New King's-road, Parson's Green, S.W.

Rev. Jas. Sunderland, Egginton Vicarage, Leighton Buzzard.

Mr. Albert Twinn, Ridgwell, Halstead, Essex.

The Report of the Education Committee stated that arrangements were being made for the holding of an Examination of Candidates for "Lectureships in the Science of Apiculture" in London, on Friday, July 10th.

In presenting the Report of the Exhibitions Committee, Mr. Till said that the Committee had brought before them the question of allowing county labels on honey exhibited for competition at the various shows; the consensus of opinion being that it would be derogatory to the general interest to allow any mark which would at all indicate the district in which the honey had been gathered. This view was endorsed by the Council. The Committee had also considered a suggestion made by the Council of the British Dairy Farmers' Association in regard to the desirability of greater uniformity in the size of jars containing honey for competition at the Dairy Show, and recommended that the height of jars shall not be allowed to exceed the height of the reputed 1 lb. screw-capped jar. The recommendation of the Committee was approved.

Four candidates presented themselves for examination for First-class Expert Certificates, each of these being required to lecture, in rotation, upon subjects selected by the Education Committee. The duration of time allowed to each candidate was fifteen minutes. At the conclusion of these lectures the Council adjourned. A short interval took place, during which light refreshments were partaken of. The members then reassembled for the

Conversazione,

Mr. Till again occupying the chair, supported by the Rev. W. E. Burkitt, Major Fair, Messrs. R. C. Blundell, H. W. Brice, W. B. Carr, R. Dymond, W. H. Harris, G. D. Haviland, J. Helsby, G. W. Hole, J. M. Hooker, H. Jonas, B. E. Jones, H. A. Jones, A. J. Moffatt, J. H. New, G. Newman, Percy Sharp, Ned Swain, E. H. Taylor, Gurney Wilson, W. C. Young, &c.

Mr. Till expressed regret that owing to the indisposition of Mrs. Cowan, their honoured permanent chairman for the year had been unable to come from Cornwall to attend the meeting. A letter had been received from Mr. Cowan conveying sincere regret at his unavoidable absence, and they were all aware of the great interest he took in the meetings and work of the Association. Letters of apology had also been received from Sir T. D. Gibson-Carmichael, Rev. E. Davenport, and a number of others. Comparatively little in the shape of bee-keeping appliances had been brought in by members, but, no doubt, subjects of much interest would be introduced, and they were happy to welcome Mr. Haviland, a life member of the B.B.K.A., who had lately returned from Borneo. Mr. Haviland was an experienced and an enthusiastic bee-keeper, who, when at St. Bartholomew's Hospital many years ago, kept bees on the roof of that institution, and he would be able to communicate many items of interest.

Mr. Haviland remarked that had he anticipated that Bornean bees would be interesting to the meeting he would have brought specimens with him. The only bee kept in the district was the *Apis indica*, which is somewhat similar to the English bee. He first saw it at Ceylon. Almost all the natives kept it in hives. At Borneo he tried to keep it in special hives which he had constructed, but he found the great difficulty was, that in that climate, where there was no winter, the bees were not in the least afraid of leaving their hives and starting business somewhere else. They could almost always keep themselves alive, and directly one began to manipulate a hive, it was immediately deserted by the bees. It then occurred to him to make some experiments with English bees, and work them together with the *Apis indica*, and he therefore sent to this country for four queens and some thousands of workers, but when they reached Singapore, only a few of the workers were alive. By this time the bees which he had ready to transfer them to had left their hives, and not long after the English bees died, so that the experiment came to nothing.

He had taken a great many bees out of trees in the jungle. But the great enemy of the

bees in these places was the "Honey Bear," so named from its great partiality for honey. He had seen cases in which bees had been located in holes in trees, a long way above the ground, and in order to obtain the honey, or the brood, of which they were very fond, the natives had driven pegs at short distances apart in the tree all round.

Perhaps the most interesting bee was the *Apis dorsata*, which was a very large bee, the workers being about the size of an English queen. It always built its combs out in the open, and had a great aversion to being shut up. Of course, this variety was useless for honey production, its great value being as a producer of wax. The *Apis dorsata* is the one that sometimes kills horses; and in reply to an inquiry, Mr. Haviland supposed it was this race of bees that had been known to attack a regiment of soldiers. Hornets, of course, were similarly obnoxious.

He had constructed special frames, covered with a caging of wire of a certain sized mesh (which confined the queen), for the purpose of imprisoning her, while allowing access and egress to the workers as with excluder zinc, and in this way he had endeavoured to domesticate the *Apis dorsata*, but all efforts in this direction were failures, so great was their objection to any form of confinement. In conclusion, Mr. Haviland detailed his experiences of some years ago, while resident in London, in keeping bees on the roof at St. Bartholomew's Hospital, where they had repeatedly swarmed, and the young queens had become fertilised in due course.

Mr. Taylor stated that he knew of several stocks being kept near to King's Cross, and Mr. Carr said that bees had been kept on the roof of a building in Holborn for some time by Messrs. Abbott Bros. A new "swarm-catcher," sent for exhibition by Mr. Seamark, of Willingham, Cambridge, was critically examined, and the inventor's explanation was read to the meeting by the chairman. It was thought that an improvement might be effected in the position of the perforated zinc arrangement, providing for the ingress of returning workers. Mr. Seamark was thanked for his kindness in sending his "catcher."

A few other small items of interest to bee-keepers were then shown, and the remainder of the evening was pleasantly and usefully occupied in the friendly interchange of the various bee-experience of those present.

A vote of sympathy with Mr. Cowan was unanimously passed by the meeting, coupled with an expression of the hope that Mrs. Cowan's health may be speedily restored.

HONEY IMPORTS.

The total value of honey imported into the United Kingdom during the month of April, 1896, was £2,416.—*From a return furnished to the* BEE JOURNAL *by the Statistical Office, H.M. Customs.*

USEFUL HINTS.

(*Continued from p.* 182.)

EARLY SWARMS.—Since last week reports of further early swarms have come to hand from many districts, plainly showing how easy a thing it is to be behindhand in giving timely room to populous colonies. The weather, too, of the past few days has continued so uniformly fine and warm—with numerous drones flying daily—that further delay in giving room to crowded hives is sure to see queen-cells started, and consequent difficulty in the prevention of swarming later on. Further dilatoriness should therefore not be allowed—as it inevitably will if continued—to upset calculations either as to increase or surplus, so far as taking the necessary steps to prevent the issue of undesired swarms. Surplus-room is the first preventive, and this should be given at once to all strong stocks, allowing the bees to occupy themselves in building out combs from foundation. If surplus honey is not yet available for storing in these combs, they will be ready for the inflow when it *does* come.

EARLY HONEY FOR SHOWING.—The continuance for another ten days of the present warmth and sunshine, with a good day's rain thrown in, would make it certain that honey of 1896 will be on hand for the first show of the year, which opens at St. Albans on the 27th inst. The promising condition of things apicultural are therefore a cause for present thankfulness, for it has always a depressing effect to contemplate a show of honey at which none of the current season's produce is staged.

On the other hand, with surplus gathered in 1896 for showing in May, we are within measurable distance of a good display at the other early "shows to come," already announced.

BEES AND FRUIT CROPS.—The value of bees as a means of increasing fruit crops—as shown in our pages from time to time—are undeniable, notwithstanding the fact that some growers seem disposed to minimise the value of bees as fertilisers of the fruit bloom. An instance illustrating the accuracy of the bee-keeper's deductions on the point came under our notice the other day in hearing of an extensive fruit grower in Kent, who declared that his gooseberries showed

a bigger crop this year than he ever remembered them to have done before. The fact of a small "bee-farm" having, last autumn, been planted within a half-minute's bee-flight of the several acres of gooseberry bushes referred to, fully explained the big crop; and it was jocularly suggested that the grower be invited to subscribe to the County B.K.A. as an acknowledgment of benefits conferred, or, as the Association prospectus says, "the advantages of membership."

Concerning the same subject further away, a news-cutting sent from Cheshire reads thus:—

"The prospects for an abundant fruit crop in Cheshire and the adjacent counties are, says our Chester correspondent, very promising. The damson, pear, and wall-fruit trees are in magnificent bloom, and, if night frosts are not experienced, there is every indication of heavy crops of fruit of all descriptions."

FOUL-BROOD SAMPLES.—We have once again to complain of want of consideration on the part of some correspondents sending samples of comb improperly packed, and of others who, while careful enough over the packing, are unaccountably thoughtless—to say the least—of those to whom the packet is addressed. Surely it is not too much to ask that notes accompanying such be sent *outside* the box containing the "sample?" How can it be termed less than gross carelessness to put a piece of foul-broody comb carefully in a tin or wood box for sending to this office by post, and packing the letter of inquiry *inside* the box, so tightly squeezed on top of (and into) the comb that it has actually to be washed before it can be read! We desire to render all possible help to readers in this matter, but must ask that such correspondents as fail to receive any reply at all to their communications on this subject will set it down to some such cause as is covered by the above remarks.

We beg also to request that queries for reply, and all literary matter intended for insertion, be written on separate sheets apart from such as refer to the subscription and advertisement department. If correspondents knew how much trouble is spared us by conforming to this rule, they would, we feel sure, bear it in mind.

IRISH BEE-KEEPERS' ASSOCIATION.

The committee met on 7th inst. Present (Mr. Jenkins in the chair): Dr. Traill, Mr. O'Bryen, and Mr. Chenevix, hon sec.

Various matters were considered relating to the Instructive Apiary now being established at the Model Farm, Glasnevin. It was decided to begin giving instruction in kee-keeping there at once, every Saturday at 1.30 p.m.

BEE-KEEPING IN CUMBERLAND.

A meeting of bee-keepers located in Millom and district was held in the Public Library Buildings, Millom, on May 9, Percy B. Stoney, Esq., M.R.C.S., in the chair. Among those present were Messrs. J. R. Hall, D. Jenkinson, J. Stables, D. Jordan, T. Tyson, Alfred J. Hutchinson, W. Parrott, J. Blair, G. Morgan, &c.

In opening the proceedings the Chairman gave his views as to the advantage to bee-keepers of associated effort in the county, and the assistance to be derived from expert help in the management of bees. He thought if they could decide upon some mode of procedure and lay it before the bee-keepers of the county, there was every hope of securing support for the movement.

In reply to an invitation asking for an expression of opinion from those present, Mr. Hutchinson said it had long been his opinion that a combined effort on the part of Cumberland bee-keepers would result in similar advantages to apiculture as were enjoyed in other counties by members of bee associations. A powerful organisation formed for mutual help would also assist them in the suppression of "foul brood," which he was sorry to say was prevalent in several parts of the county. He found that many bee-keepers whom he had met were of the same opinion, and this had prompted him to convene that meeting. He had received letters from bee-keepers located in various parts of the county, who were unable to attend, but expressing cordial sympathy with the proposed movement, and promising every assistance in their power. Mr. Hall, a district sec. of the L. and C. B.K.A., who was present, gave some particulars of the work done by the L. and C. B.K.A., together with valuable hints as to details in forming an association. After further discussion, it was decided that a Bee-Keepers' Association for Cumberland was most desirable, and a committee was formed to take steps to this end, Mr. Hutchinson being appointed secretary (*pro. tem.*)

It was afterwards agreed that the Secretary be instructed to write to the Hon. H. V. Duncombe, M.P. for this division, placing before him particulars of "foul brood" and asking him to vote in favour of the Bill. A vote of thanks was accorded to the B.B.K.A. for their laudable efforts on behalf of bee-

keepers and bee-keeping. Mr. Hutchinson drew the attention of the meeting to an article in a recent number of the B.B.J. referring to the importance of ascertaining the opinion of County Councils throughout the country with regard to the proposed Bill dealing with "foul brood." Eventually it was decided that a deputation wait on the four local County Councillors and lay before them facts on the foul brood question as it effects bee-keeping and ask them to reply in favour of compulsory power to destroy diseased hives. The meeting closed with thanks to Dr. Stoney for presiding. —(*Communicated*).

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

EXPERTS AND FOUL BROOD.

[2495.] I was much surprised on receiving my BEE JOURNAL of the 30th ult. to find you had given such prominence to my letter on page 171, and, in consequence, felt much as I should imagine one would upon being put into a pillory; but having, with the aid of your kind remarks got over this feeling, I should like to remove certain misunderstandings, doubtless due to my faulty expression, regarding the letter referred to. First, however, let me impress upon you that my desire is above all to help both the B.B.K.A. and the cause of bee-keeping.

I am not "in the know" regarding the labours of the Special Committee of the B.B.K.A., but hope they may be successful in their undertaking. They *must*, however, have reliable evidence of the existence of foul brood in different districts, which evidence has partly been contributed by the affiliated Associations, and I still think—nor am I alone in this idea — that if such information were collated by the secretary and sent to the Associations it would be of considerable service in attaining the object we are all striving for—viz., the suppression of "foul brood," in that it would enable experts to localise the disease, and keep a careful look-out for it around the districts mentioned. It would also prevent the forming of more apiaries or purchase of bees from such places until such time as the neighbourhood was known to be clear. For this purpose alone the information would be very valuable, especially on the borders of counties.

A year or so ago some eight apiaries were, through my own influence, started in Lincolnshire on the border line. Last year I found in the adjoining county foul brood prevalent within a mile of some of them, and had been for some time. The river intervening along this border renders it difficult of access for long distances, or I should perhaps have discovered this fact; but the possession of such a list as I suggest would certainly have caused me to discourage starting these apiaries until I knew the coast was clear. The value of such a list must surely be obvious to all interested in the matter. It would not take much compiling, could be marked "private and confidential" if thought necessary, and I am sure that good sense and discretion—of which our experts possess their share along with other folks—would prevent anything in the nature of "a scare," as you term it, for if we have got to face the music it is as well to know the tune.—F. J. CRIBB, *Gainsboro', May* 9.

[Concerning the above we have nothing to add to our remarks of last week, beyond expressing the hope that "Experts" will wisely exercise the discretion they, no doubt, possess along with other folks. We fear, however, that our friend Mr. Cribb—and probably some "other folks"—does not quite perceive the direction in which our word of caution points.—EDS.]

BEES "BALLING" QUEENS.

[2496.] It is often asked why bees "ball" their queens; but this is not a common occurrence in expert hands, and my opinion is that she is mistaken for a stranger. In a normal condition those bees attending the queen behave in a way that shows all is going on well with her. This behaviour is contagious, and is from this centre carried out by all the bees throughout the hive. But during manipulation the queen is sometimes forced rather suddenly to another part of the hive, and the bees, while under the impression that their queen is all right, mistake her for an alien.

The only case that has come under my notice was once while examining a frame, when the queen dropped from it to the ground. I picked her up and placed her on the frames then in the hive. One bee attacked her, and the example was instantly followed by dozens. Possibly the smell of my fingers might have something to do with it in this case; if so it must have been perceptible at some little distance, as the leader never stopped to make any inquiries. The bees would naturally be most jealous of their queen's safety during the spring and autumn, but if once the attack is begun the bees are too furious or too much engaged to allow themselves to be told that "their own dear queen is missing."—GEO. WALL, *Harrow-Weald.*

BEE NOTES FROM SUSSEX.

[2497.] The extraordinarily fine and dry weather, allowing the bees to fly nearly every day, in spite of some cold winds and frosty nights, has had its effect, and never yet have I seen stocks in such splendid and promising order. Unless we happen to get a spell of rain and cold just at the wrong time, the honey harvest ought to be magnificent this year.

The first swarm of which I have heard as yet in the neighbourhood came off from a skep in the village to-day, and was an unusually large and fine one. My own bees in frame hives show no inclination as yet to swarm, but as drones have made their appearance, I shall put on a couple of of Hole's improved swarm-catchers I happen to have by me at the first opportunity. The wealth of fruit-tree blossom and flower bloom is this year very great, and the bees seem to be making the most of it. I cannot find, however, as yet, that my bees are storing. Probably they have all they can do to keep pace with the increasing needs of the rapidly-growing populations. Now that there are drones, and the heat of the hives (especially by night) is quickly going up in consequence, I expect to see them soon take to the supers in good earnest. At present they are doing little more than clear up in preparation for the coming honey flow—and, I trust, *boom!*

In the B.B.J. for April 11, 1895, page 146, No. 2,295, I asked whether the bees obtain pollen from the catkins of aspens. Recently, as usual, the ground was strewn with a carpeting of these, fallen from the lofty trees which produce them. One day, to my surprise, the lad I employ in my garden asked me to come and look at something he had noticed; and he proceeded to point out to me dozens of bees hovering over these, and ransacking them as they lay on the ground. Whether they also fly up into the trees themselves we could not decide; but, knowing my curiosity on the subject, my assistant on several days showed me ample proof that the bees rifle the aspen catkins when fallen to the earth.—W. R. N., *Sussex, May* 8, 1896.

EASTBOURNE SHOW.

[2498.] June the 9th is fast approaching, and I am hopeful that on that day we shall see a grand display of Kent and Sussex honey at Eastbourne.

Bee-keepers in each county, please do your best. Entries close May 22, and fees will be returned if honey should fail. Those on whom the work of this show devolves will be greatly disappointed if bee-keepers in either Sussex or Kent are backward in sending entries. Mr. Brice, K.B.K.A., and Mr. Young, B.B.K.A., will supply schedules. (See advertisement on another page.)—E. D. Till, *Eysford, May* 11.

FLAT-BOTTOMED FOUNDATION.

[2499.] Your correspondents Mr. Harrison (2473, p. 155) and Mr. Taylor (2477, p. 165) are mistaken in attributing their failures to the use of flat-bottomed foundation. Years ago, when the late Mr. C. N. Abbott introduced flat-bottomed foundation, I used nothing else either for brood or super, and the bees *never* refused to work it. I have since had the same kind of foundation refused by bees as I have had that with a natural base. Last year, however, I used both indiscriminately, and found none refused. The causes, in my opinion, are chiefly attributable to something distasteful to the bees (either in the wax or by contact with it), or the foundation is too hard for them to work it.—Northants.

EARLY HONEY.

[2500.] On May 5 I took off some nicely finished sections of comb-honey. I have three racks of sections already three parts filled. We are having splendid bee weather at present. The chestnuts and May blooms are just bursting into flower. The gardener at Mr. F. Riley Smith's, of Tadcaster, told me he had a very large swarm on May 6, which is rather early for Yorkshire, isn't it? Hoping all bee-keepers will have a good honey season.—T. Rothery, *Stutton, Tadcaster, May* 10.

BIRD'S NEST IN HIVE.

[2501.] The other day whilst examining an empty hive, of which the roof was not fixed on properly, I found a pretty little nest formed of moss and bran, comfortably occupied by a tom-tit sitting on ten eggs, and such is the courage of the "little mother," that she will not fly off, but remains in charge while being looked at. Perhaps some other bee-keeper has had the same experience?—E. H. Taylor, *Welwyn, Herts.*

EARLY SWARMS.

A SWARM IN NOTTINGHAM PARK.

On Sunday, May 3, a fine swarm issued from a hive in the Park, Nottingham. The owner, a leading gentleman in the town, rode over on his bicycle to fetch me to hive the bees for him, but, being from home at the time, my wife gave him instructions how to proceed, and these were carried out by the wife of the gentleman referred to, who bravely hived the swarm into a straw skep from an awkward position. I went over on the following day and put the swarm into a frame-hive, and it is now doing very well indeed, and working away as only swarms do work. This is the earliest swarm I have heard of in this district this year.—P. Scattergood, Jun., *Stapleford, Nottingham, May* 6, 1896.

EARLY SWARMING IN SCOTLAND.

A hive of bees belonging to Mr. Samuel Callander, Clunie Farm, Terregles, Dumfries, cast a splendid swarm on May 6. It was successfully hived and is doing well. Bee matters are from four to five weeks earlier than usual, but this is the first swarm we have heard of in the North.—R. McC., *Inchiman. N.B., May* 10.

SWARMS IN DERBYSHIRE AND CUMBERLAND.

I hived my first swarm this season on Sunday, May 10. Though very early, I see I am not the first in Derbyshire, as seen by B.J. of May 3, where a swarm coming off in April; but I think I am a good second.—W. MEYNELL, *Horsley, nr. Derby, May* 11.

Mr. M. Wilson, of Waberthwaite, Cumberland, had a very large swarm of bees on May 8, this being the first I have heard of for Cumberland, and is very early, considering how far north we are.—W. BARROWS, *Eskmeals.*

THE "GUIDE BOOK."

ISSUE OF THE 29TH THOUSAND.

In announcing the issue, within the next few days, of the fourteenth edition (consisting of four thousand copies) of the above work, a word of apology is due to several hundreds of intending readers, who have been kept waiting for so long a time for the book after ordering it. In tendering this apology, the author may, perhaps, be allowed to say that a good portion of his somewhat limited leisure has been occupied in making this edition of the "Guide Book" as perfect as possible, and he is not altogether without hope that the result will sufficiently well repay the waiting for. The work has been largely extended and many parts re-written; the chapter on "Diseases of Bees" being entirely so. In fact, each division has been brought up to date and revised in the light of latest discoveries in the art of bee-keeping.

A special and new feature is the introduction of a series of illustrations executed in the finest style of half-tone process engraving from photographs. These life pictures may be regarded as so many object-lessons illustrative of bee-manipulations in a modern apiary, and should be very helpful in enabling readers to thoroughly understand the text of the book, so far as carrying out bee-work. A number of other new engravings have also been introduced, wherever necessary.

Finally, by adding a line of text on each page, much additional matter has been got in to the prescribed space, and for the rest the author is content to let the book speak for itself when it appears, which will be within a week or ten days' time.

Queries and Replies.

[1466.] *Working Skeps above Frame-hives.*—Like your querist, F. Potter (1,454, page 157), I have a very strong stock in a straw skep which was placed on the top of a frame-hive, fitted with ten standard frames on April 27. Like him, I also propose inserting a lift of frames between brood-box and skep. 1. Could you give me a hint as to when I may reasonably expect to find them ready for this, with fine weather and abundant forage? (I don't ask for anything like precision, but just a hint that may save premature and fruitless manipulation.) In your reply to the query *re* excluder zinc, you say it "must not be placed between the two, unless it is quite certain that there is no drone brood in the skep above." 2. Might not a strip of excluder-zinc eleven or twelve inches wide be placed across the frames to afford an exit for the drones, while it would in all probability deter the queen from ascending?—G. M. M., *Dorset, May* 11.

REPLY.—1. Under the conditions named, additional surplus-room may be given as soon as it is ascertained that the frame hive is fairly full of bees and brood, with all its combs completed. Supposing that the frames in lower hive were filled with full sheets of foundation, and stock "very strong" as stated, from fifteen to twenty days from time of putting on the skep should suffice to render a second lot of frames necessary. 2. Yes, any means of queen and drones passing down into lower hive does away with serious risk, but this seen to, a proper excluder is preferable.

[1467.] *Artificial Swarming.*—I have a hive of bees crowding ten frames, eight of which are covered with brood. Outside this hive on Monday evening I found the queen dead. I examined the hive on Tuesday and found a young queen hatched out and two sealed queen cells. Is it too early to make an artificial swarm from this hive by following directions in Guide Book? I have not noticed drones on the wing, but there are drones in the hive.—"BEGINNER," *May* 5.

REPLY.—An artificial swarm cannot be made from the hive referred to until such time as the young queen now hatched has been fertilised and laying for several weeks. It would be safer and better for you to defer making the proposed swarm until the first week in July, by which time the stock may have stored some surplus honey for you.

[1468.] *Keeping Smokers Alight.*—"*Wells*" *Dummy.*—Referring to Queries (1443), will the Editors kindly reply to the two following queries which have not been answered, and allow me to thank those bee-keepers who kindly answered the other questions?—1. Girders for section racks? 2. Smokers?

Your footnote regarding these, page 154, reads as follows:—"And how easy it is—when one knows how—to keep a good smoker alight for three or four hours at a stretch." Will you please explain how this can be done? 3. "Wells" dummy. The holes in my "Wells" dummy have been stopped up by the bees. Will you please say if, under the circumstances, it will be safe to let the bees amalgamate in super when the time comes? I cleared the holes in March, but the bees will persist in stopping them up.—ANXIOUS BEE-KEEPER, *Dorset, May* 8.

REPLY.—1. Personally we prefer wooden rests for the sections to rest upon. 2. By using ordinary intelligence in making a roll of paper close enough for fairly slow combustion, and yet allowing a current of air to pass upwards and through the roll on using the bellows. Some degree of the same intelligence must also be used in choosing a paper which will "smoulder," and not persistently go out. 3. Bees of two separate stocks have been known to work in a super common to both lots, but it is not quite safe to let them do so. Hence Mr. Wells's plan of a perforated dummy to give the same scent to the bees of both compartments. Yours must be regarded as having a solid dummy, since all the perforations are closed.

THE HEATHER HARVEST.

PREPARATION OF HIVES FOR TAKING TO THE MOORS.

Mr. J. N. Kidd, Hon. Secretary of the Northumberland and Durham B.K.A., has kindly forwarded his paper on "Preparing Bees for the Moors," read at the annual meeting of the Association, from which we make the following brief extracts as possessing interest for bee-keepers located within reach of heather:—

"In the early part of August bee-keepers convey their hives to the heather and place them in sheltered positions in the midst of the purple bloom; the moors are thus dotted over with hives, many of them having travelled considerable distances by road or rail. If, on a warm day later on, the entrances to various hives are watched, it will be seen that at some so great is the number of bees rushing in and out that the gateways present a busy and animated appearance, whilst at others there is little apparent activity. Further disparities will appear if the hives are opened and an examination made of the surplus chambers; in some the section-racks will be crammed full of bees working out the comb, in others the surplus chambers will be found deserted by the bees and consequently no honey being stored in them."

After entering into the past history of the various hives in order to account for the failure or success of each respectively, he goes on to say: "A hive ready for the moors should be literally crammed with bees; 70 per cent. of the cells in the whole of the stock combs (say from seven to ten combs), should contain brood; the remaining cells being filled with stores. If the general principles of management as set forth in the 'Guide Book,' have been intelligently followed, there will be very little doubt of the hives answering to this thriving and populous condition.

"The following examples explain in a condensed form the methods of management practised by bee-keepers in Northumberland and Durham, viz.: A has an apiary of thirty colonies. Beyond giving absolutely necessary attention from time to time, the bees are interfered with as little as possible. Except in very bad seasons, no food is given for stimulative purposes. This apiary is, however, near a wood containing many wild cherry trees, which afford an early and plentiful supply of nectar.

"B's apiary consists of eight hives. At the approach of winter a 6 lb. cake of soft candy is placed over the cluster of each colony, which, whether consumed or not, is replaced by a bottle-feeder in April, and slow stimulative feeding is continued from day to day. About a fortnight before white clover blooms, rapid-feeders are put on, and the bees fed for two days with as much thick syrup as they can take down; a week is given to enable them to seal over the syrup, when the sections are put on; the bees immediately take possession and commence comb-building in the sections. When preparing the bees for the moors they are again fed heavily in the same way as above.

"C has six colonies in hives containing ten to twelve standard frames.

"The bees are kept continually under the direct control of the bee-master. They are stimulated to activity in early spring by uncapping their stores; brood is spread from time to time, the slow-feeder being kept constantly going. Thus, by the end of May the combs are filled with brood, and the hives boiling over with bees. From this time till the close of the swarming season—aided by a reliable assistant—each comb in the apiary is examined once a week, for the purpose of cutting out queen-cells. Swarming is prevented and excellent results are obtained. The apiary is run for extracted honey only.

D has eight colonies. In the autumn a 2-lb. cake of candy is placed above the cluster of each stock. This is renewed from time to time if needful after the close of the winter. Slow feeding is commenced in April, and continued up to the clover blossoms (about June 15). When the clover harvest is over all section-racks are removed, and, unless the weather is very fine, the bees are fed slowly until packed for sending to the moors. Swarming is discouraged, but if any swarms 'come off' they are returned to the stock

hive after all queen-cells have been cut out. Before sending to the heather all combs not containing brood are taken out, the brood-nest being thus contracted to force the bees into supers.

"Many other examples might be quoted; but it is impossible to give the rule for general management, as so much depends on the quantity and quality of the bee-forage surrounding the hives. The necessary variations of bee management must be left to the judgment of the apiarist himself, who will know the requirements of the bees from time to time by the weather conditions prevailing, and the forage in bloom. Statistics, however, received from bee-keepers in Northumberland and Durham indicate that slow continuous feeding —say half a gill per day—up to the honey flow is productive of the best results. Over-feeding is injurious, causing reduction of the brood-nest; but neglect of feeding in cold, wet weather is disastrous, sometimes causing an entire discontinuance of breeding. The advantages of early stimulation, however, become apparent in considering the relation of swarming to the heather harvest. When bees swarm their forces are divided, and the yield of surplus honey is consequently curtailed. For this reason, and the trouble of hiving and risk of losing the bees, swarming is usually discouraged."

The writer then—after discussing the question of swarming and non-swarming when working for clover as compared with heather honey—continues:—"The yield of surplus honey will be increased if the bees are relieved whilst on the moors of the labour of building the combs needful for its storage; and the following methods of obtaining comb for this purpose may be adopted: 1. Clear all unsealed sections after the clover harvest with the extractor, and give them to the stocks to be sent to the moors. 2. Employ forward stocks before the clover harvest (if necessary by additional feeding) to draw out section combs, to be cleared by the extractor. It should, however, be noted that comb obtained in this way afterwards becomes bleached by exposure to the air, and so dry and brittle as to make it break up into minute pieces—quite distinct from the honey—whilst being eaten, and makes its presence too evident to the consumer. For table use this is a very objectionable feature.

"In marketing such honey it is advisable to separate it from the comb with a honey press (a potato squeezer will do for small quantities) as is sometimes done with unfinished heather sections, and bottled. In this form it will command a ready sale; or a very desirable blend can be made by mixing it with extracted clover honey. Super foundation is not edible, and its flavour is often so disagreeable as to destroy the reputation of the finest heather honey. For these reasons most bee-keepers insert only a small piece in each section as a guide to the bees."

THE HIVE.

"All unnecessary weight should be dispensed with in the construction of hives for the heather, and yet they should be strongly built to withstand the knocking about they receive on their annual trip to the moors. A double-cased hive is preferred for the following reasons:—

"The outer case and air-space afford protection from excessive heat; and in cold weather the natural warmth of the bees is better retained. It permits the use of 17-in. top bars; and affords more room in surplus chambers for packing. On the other hand, these hives occupy a larger space when placed on a wagon and its additional size and weight are impediments to travelling; while it has not yet been proved that more honey is stored by the bees in double as against single-walled hives.

"The following main points indicate how a suitable moor hive may be constructed:—Body box to contain ten standard combs, with 17 in. top bars, and one dummy, single walled only at sides. Lift deep enough to cover two racks of sections.

"A piece of perforated zinc may be inserted in the floor-board whilst travelling, but this is unnecessary if top is covered with scrim or perforated zinc, and all quilts taken off until the hives are set down again.

"The weather at the moors being often cold and bleak (especially during night time), the section racks should, therefore, be made snug and warm, so as to conserve the natural heat of the bees."

Echoes from the Hives.

Walton-on-Thames, May 10.—I expect you have found swarms very prevalent, but one came off here at Halliford on April 28, and on May 4 I took for a lady a large swarm, covering eight frames, well. I also removed from the parent hive, after the swarm issued, eight fully-sealed and beautiful sections, and could have taken more not so well sealed, so I left them on. This is unusually early for both honey and swarm to be taken off the hive. I also took a very large swarm on May 9.—M. TURNER.

Honey Cott, Weston, Leamington, May 9.—The cuckoo has now been here about three weeks. A week ago I also heard the nightingale. Drones, too, are flying from my hives in full force, and the bees are very busy building up well. It is a sight to be pleased with, a few days after inserting a frame of foundation between full combs of brood, to find the combs built out, and practically full of brood from top to bottom. I cannot even boast of having supers on yet, but hope to do so ere long. The white thorn is just on the

eve of coming out, while dandelions, sycamores, and apples are blooming in great profusion; also turnip and greens are in full flower, as are some winter beans. If we have only a continuation of the warm weather experienced of late, there is great promise of a fine yield of honey this year.—JOHN WALTON.

Bee Shows to Come.

May 27 to June 1.—Bath and West of England Agricultural Society at St. Albans. Bees, hives, and honey. Entries closed.

June 9 to 12.—At Eastbourne, in connection with the Royal Counties Agricultural Society's Show. For Schedules apply as below. Entries close May 22.

June 10 and 11.—Bees, hives, and honey, in connection with the Essex Agricultural Society's Show at Brentwood. For schedules of honey department, apply E. Durrant, Hon. Sec. Essex B.K.A., Chelmsford. Entries close May 27.

June 22 to 26.—Royal Agricultural Society at Leicester. Schedules now ready. Entries closed. All letters relating to Bee Department of above Shows to be addressed to Edwin H. Young, Secretary B.B.K.A., 12, Hanover-square, London, W.

July 1 and 2.—At Ramsgate, in connection with East Kent Agricultural Society's Show. Entries close June 18. Schedules ready shortly from Henry W. Brice, hon. sec. Kent B.K.A., The Apiary, Thornton Heath.

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

GEO. ROOKE (Salisbury). — *Bees Transferring themselves to Frame-hive.* — If the bees have transferred the brood-nest below, as stated, the old hive may be removed to make room for a box of shallow-frames as soon as all the brood in the "old hive" has hatched out. To remove it sooner would, of course, entail loss of the brood. Apart from this, the plan you propose will answer all right.

CALEB GODFREY (Cardiff).—*Working Frame-hives.*—1. Ten or eleven standard frames are sufficient for brood-chamber. 2. Division-board must have same space between it and face of comb as is allowed between combs and hive sides. 3. Boxes of shallow-frames must be placed right above top-bars allowing the usual $\frac{3}{8}$ in. space below frames. You should really buy a book on bees to get at all these details of how to work frame-hives, or mistakes will certainly occur.

R. HAMLYN-HARRIS (Bristol).—*Parasites on Bees.*—No doubt the constant worry to the queen and bees of the parasite *Braula cœca*, must tend to lessen the prosperity of a stock. They can only be got rid of as stated over and over again in our columns.

H. MAY (Tetworth). — *Chilled Brood.*—The condition of things you report as to chilled brood are so extraordinary as to be quite past our comprehension and are certainly unaccountable to us. Are you not within reach of some experienced bee-keeper who could inspect your hives and report to us?

W. ALLEN.—1. Comb sent is very old, and only fit for burning. It is also affected with foul brood, which makes it doubly suitable for entire and total destruction. To use such combs again for a swarm as proposed would be the height of folly. 2. Swarms of the current year will do to have frames only partly filled with foundation, without building a preponderance of drone comb in consequence.

"BEES" (Isle of Man). — *Helping Weak Stocks.*—1. We should make quite sure of the cause of weakness in the "pure Italian" colony before giving combs of brood from a thriving stock of hybrid bees to help on the very weak lot. Besides, if there are only bees to cover three of the four frames now in the hive with brood on two of these already, any further brood given them would certainly be chilled. 2. We can offer no reliable explanation of the bee-loss you mention, other than faulty management.

NEMO (Glasgow).—*Purity of Wax in Comb-foundation.*—There are no entirely *safe* means, other than by analysis, of proving the purity or otherwise of the wax used in comb-foundation.

J. H. S. (Sheffield).—*Queen rearing.*—There is no way except waiting to see if queens hatch out from the sealed queen-cells seen. If they do come out all right we see no reason why one of them should not be safely mated at this season.

ROBT. J. LANG (Plumstead). — *Odd-sized Frames in Hives.*—The *best* time for effecting the change to Standard size frames would be twenty-one days after the old hive had swarmed, when there would be no brood to deal with. The full *modus operandi* would take too long to describe in

this column; but it is fully detailed in both "Modern Bee-keeping" and in the "Guide Book."

M. L.—Apply to Mr. Meadows, of Syston. (See advertisement columns.)

S. JELLING (Coventry). — *Embryo Wasps' Nests.*—Much obliged, but we have already some on bar-frame by us.

J. CLARK (Maryport).—*Queen Turned Out.*—Queen sent is an adult. There is nothing to indicate the cause of death.

*** Several communications and replies to queries are unavoidably held over till next week.

Special Prepaid Advertisements.

Situations, Publications, Bee Plants, &c. — Up to Twelve words, Sixpence; for every additional Three words or under, One Penny.

STOCKS, Nuclei, Swarms, and Queens.—Address, Rev. C. BRERETON, Pulborough, Sussex.

SWARMS for SALE, 10s. 6d. each, or 2s. 6d. per lb. A. FELSTEAD, Rempstone, near Loughborough.

FOR SALE, Strong STOCKS on frames at 21s. LEY, Easton, Stamford. L 74

WELL known Bee plants, Borage and Canadian BALSAMS, 50 mixed, post free 1s. 3d. Apply, J. T. HICK, Sherburn, East Riding, Yorks. L 75

PURE ENGLISH HONEY in ½ cwts., 6d. per lb. Tins free. Sample 2d. Deposit. DUTTON, Terling, Witham, Essex. L 71

WANTED at once, a swarm of PURE ITALIANS cheap. E. J. FLEWELLING, Burford, Shepton-Mallett. L 72

SWARMS Now Ready 10s. 6d., extra large 15s. Empties returned or 2s. 6d. Cash with order. ALSFORD, Expert, Blandford. L 73

FOR DISPOSAL, Stocks BEES, in straw skeps, on rail, 10s. JAS. WEATHERHEAD, Ely, Cambridgeshire. L 63

QUEEN'S, 4s. 6d.; Nuclei, 10s.; Stocks, 20s. Apply, FRANK REED, Portslade, Sussex. L 82

30 LBS. beautiful HONEY in tie-over bottles 16s. 6d. the lot. 100 Bedding PLANTS, 10 varieties, 1s. 6d. free. LEIGH, Florist, Broughton, Hants. L 83

SWARMS FOR SALE, 3s. per lb. packed free. ROBT. NESS, Certified Expert, B.B.K.A., Sproxton Park Apiary, Helmsley, Yorks. L 84.

STOCKS of BEES at 30s., 25s. Swarms at 15s., 12s. 6d. Nuclei at 17s. 6d. and 15s. Healthy young queens, guaranteed. Apply, E. PHILPOTT, 18, Bedford-road, Hitchin, Herts. L 81

WILL EXCHANGE Cushion SAFETY BICYCLE, ball bearings and pedals, good condition, for five strong swarms of Bees. A. SURTEES, Blacksmith, Leams, Gateshead. L 85

I AM now booking orders for NATURAL SWARMS of my well-known strain PURE NATIVES, 3½ to 4 lbs., 12s. 6d. each. Guaranteed healthy. Orders strictly in rotation. Few doz., clean, well-filled, and sealed. 1 lb. sections, 7s. doz.; 250 lbs. first quality, extracted, at 6d. lb. Tins free. C. WHITING, Valley Apiary, Hundon, Clare, Suffolk. L 66

Prepaid Advertisements *(Continued)*

STRONG SWARMS, from good-tempered, healthy stocks, 10s.; sent in new skeps, 2s. extra if kept. Mrs. MAY, Parwich Hall, Ashbourne.

FOR SALE, 200 lbs. Extracted Honey. Also Guinea Extractor. Apply J. W. DAVIES, Park Farm, Wallingford. L 62

SWARMS Booked in Rotation, 3s. 6d. lb.; Skeps, 1s. 6d.; Stocks complete in Bar-frame Hives, 25s. WEATHERHEAD, Redbourn, St. Albans. L 58

STOCKS, 20s. Strong Healthy Swarms, 10s. 6d. Packed free. REV. JARVIS, Stonehouse, Glos. L 59

PURE IMPORTED ITALIAN QUEEN 7s. each. Cash with order. J. S. GREENHILL, 80, Graham-road, Wimbledon.

BEEKEEPERS should try PATERSON'S SCOTCH-MADE MEDAL HIVES and APPLIANCES. PATERSON, Pollokshields, Glasgow. L 11

WANTED, Strong Early SWARMS. State particulars. Address, BAMFORD, 45, Jubilee-road, Middleton, nr. Manchester. L 77

EARLY SWARMS WANTED. State price and full particulars to GEORGE ROSE, Great Charlotte-street, Liverpool.

FOR SALE, SECTION RACKS to hold 21 1-lb. sections with tin dividers. Sample sent. 2s. 6d. post free. WILLIAM MILNE, Russell-street, West Hartlepool. L 80

EXCHANGE, smart little Black Red Game BANTAM COCK (Wicks), Pullet, laying, and Hen, for Standard Frames, drawn out, or "Wells" Hive. J. BARKER, Winton, Kirkby Stephen. L 76

LACE PAPER for GLAZING SECTIONS. 100 strips, 7d., 200, 1s. 2d., 300, 1s. 6d., 500, 2s. 3d., 1,000, 4s. Post free. Best quality. Neat patterns. W. WOODLEY, Beedon, Newbury.

HEALTHY STOCKS of ENGLISH BEES in first-class double-walled standard bar-frame hives. Grand working strains. Price moderate. MASON, Nunclose, Armathwaite, Cumberland. L 68

"HONEY AND ITS USES," 1½d.; 3s. 6d. per 100. Also "MEAD, AND HOW TO MAKE IT," and "VINEGAR FROM HONEY," each 2½d. Small sample bottle of Honey Vinegar, 7½d. Rev. GERARD W. BANCKS, The Green, Dartford.

BEES, splendid workers. From one single hive last season I extracted 216 lbs. Guaranteed healthy Natural Swarms, 3½ to 4 lbs., 12s. 6d. each. Packing and box free. Orders in rotation. A. TWINN, Apiary House, Ridgwell, Halstead, Essex. L 78

FOR SALE, 26 strong STOCKS of BEES in frame hives; also 14 Spare Hives, with built-out combs. All the above with Lee's frames and W.B.C. ends. Also 40 crates (Abbott's) and 24 lifts, extractor, honey tins, &c., &c. All hives, &c., are inter-changeable and in perfect condition. No foul brood. Bid wanted for lot. Apply, ARTHUR J. H. WOOD, Bellwood, Ripon.

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"HOW TO GROW FLOWERS FOR EXHIBITION." "HOW TO GROW CARROTS, PEAS, BEANS, POTATOES, &c., FOR EXHIBITION." "HONEY AS FOOD," &c.

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By the distribution of these Leaflets better prices can be obtained by Bee-keepers, and any amount of first-class Honey can be disposed of.

Send P.O. value 1s. for Packets of Leaflets, &c., to T HOLLIDAY, ASTBURY, CONGLETON.

Editorial, Notices, &c.

FOUL BROOD LEGISLATION.

BILL FOR THE BETTER PREVENTION OF FOUL BROOD OR BEE PEST.

We are here enabled to place before our readers the draft of a Bill having for its object the obtaining of compulsory powers for dealing with foul brood among bees. The proposed Bill, as printed below, has already been submitted to the Executive Committee of the County Council's Association, and is now referred by that body to their Parliamentary Sub-Committee, which meets in London within the next few days.

The full text of the draft Bill reads as under :—

Be it enacted by the Queen's Most Excellent Majesty by and with the advice and consent of the Lords Spiritual and Temporal and Commons in this present Parliament assembled, and by the authority of the same, as follows :—

1. In and for the purposes of this Act the word "infected" means infected with the disease known as Foul Brood, or Bee Pest ; and the word "premises" includes lands and buildings.

2. Every Local Authority empowered to execute "The Diseases of Animals Act, 1894," shall have power to execute and enforce the provisions of this Act.

A Local Authority may (without prejudice to their powers of delegation under any other Act) resolve that the provisions of the Fourth Schedule to the Diseases of Animals Act relating to Committees of Local Authorities shall apply for the purposes of this Act, and thereupon the said provisions shall apply accordingly.

Any expenses incurred by a Local Authority in the execution of this Act shall be defrayed in the same manner as the expenses of such Local Authority under the Diseases of Animals Act.

3. For the purpose of executing and enforcing the provisions of this Act, a Local Authority may, by a warrant in the form in the Schedule to this Act, or to the like effect, authorise a person qualified by his knowledge of bee-keeping (in this Act referred to as a bee expert) to exercise the powers exercisable by authorised bee experts under this Act.

Any such warrant shall extend to the whole or to such part as shall be therein specified of the district of the Local Authority, and shall continue in force for the period (not exceeding *five* years) therein limited, but may at any time be revoked by the Local Authority.

A Local Authority may, if they see fit, grant warrants to more than one bee expert.

A warrant shall be sufficient if purporting to be signed by the Clerk of the Local Authority, without being sealed, and shall not be subject to any stamp duty.

4.—An authorised bee expert under this Act shall have the following powers and duties :—

(i.) He may enter any premises whereon he may have reasonable grounds for supposing that bee pest exists, or has within fourteen days existed, and may examine any stock of bees or product of bees, or any hive or appliance for bees which he may find thereon ;

(ii.) He may destroy or order the destruction of any infected stock of bees, or any infected product of bees, or any infected hive or appliance used for bees ;

(iii.) He may, in a case where the infection is not, in his opinion, sufficient to justify destruction, order the disinfection of the infected stock, product, hive, or appliance, or forbid the removal, for a specified period, not exceeding three months, of any such stock, product, hive, or appliance from the premises where he finds it ;

(iv.) He shall exercise and perform such powers and duties as may be prescribed by bye-laws of the local authority.

Any person who obstructs any authorised bee expert in the exercise of his powers, or who fails to comply with an order under this section, shall be liable to a fine not exceeding five pounds.

5.—Compensation may be paid by a local authority to any person who has suffered loss or damage by reason of the exercise of the powers of this Act, unless the authorised bee expert reports that the existence of bee pest on the premises of such person was due wholly or in part to his own negligence ; but such compensation shall in no case exceed ten shillings per stock of bees.

6.—A Local Authority may make Bye-Laws :—

(i.) For requiring notice of the existence of bee pest infection to be given to the Local Authority ;

(ii.) For prescribing and enforcing the isolation and treatment of infected stocks or products of bees ;

(iii.) For enforcing the cleanliness and disinfection of hives or other receptacles for bees ;

(iv.) Generally for the better prevention of bee pest.

Such Bye-Laws may impose penalties not exceeding, in any case, five pounds for any breach of them, and shall be of no effect unless and until confirmed by the Board of Agriculture, but shall not require confirmation by any other authority.

7.—Any person who knowingly removes from his premises, or sells or disposes of to any other person, any infected stock of bees,

or any infected product of bees, or any infected hive or other receptacle or appliance used for bees, shall be liable to a fine not exceeding, for the first offence, five pounds ; and for the second or any subsequent offence, ten pounds.

8.—All offences under this Act may be prosecuted, and fines may be recovered in a summary manner before a Court of Summary Jurisdiction.

9.—This Act may be cited as "The Bee Pest Prevention Act, 1896."

BEES AND FLOWERS.

The displays of honey, bees, and bee-keeping appliances at public exhibitions are usually made much more attractive to visitors by the judicious addition of floral decorations. Bee-keepers residing in or near Hertfordshire can materially aid in making the coming show at St. Albans more than usually successful by sending, not later than Tuesday next, plants or flowers suitable for decorative purposes, addressed to the Secretary, Bee Department, Show Ground, St. Albans, by whom they will be gratefully accepted, and utilised to the best advantage. Carriage of parcels will be paid, if desired.

WANTED—200 SHILLINGS!

It may not be generally known that the effort being made by the British Bee-keepers' Association to popularise bee-keeping in the Southern Counties by means of a display of honey and bee-keeping appliances, in connection with the meeting of the Royal Counties Agricultural Society at Eastbourne, June 9th to 12th, entails a considerable drain upon the Association's funds. The prize list alone amounts to a good round sum, in addition to which numerous other expenses have to be incurred. To meet this expenditure it has been decided to appeal to bee-keepers in Sussex, Kent, Surrey, and adjacent counties for a little monetary assistance. If two hundred of our friends will each send the small sum of one shilling, our object will be attained. Remittances made payable to Edwin H. Young, Secretary B.B.K.A., 12, Hanover-square, London, W., will be thankfully received, and, by the courtesy of the Editors of the B.B. JOURNAL, an acknowledgment of all sums received will appear in these columns.

SCOTCH COUNTY COUNCILS

AND TECHNICAL INSTRUCTION IN BEE-KEEPING.

A numerously signed petition having been received from the North Ayrshire Bee-keepers' Association asking for a grant in aid of proposed lectures on bee-keeping, the committee agreed to give £10 on condition that twelve lectures were delivered. The Association accepted the offer and appointed the Rev. R. McClelland, Inchinnan Manse, Renfrew, as lecturer. The lectures were highly appreciated, and it is believed will be a stimulus to bee culture in the county. Two lectures, illustrated by lime-light views, were delivered at each of the following places :—Dalry, Kilmaurs, and Stevenston. The attendance at each place numbered 70, 100, and 40 respectively. The remaining lectures will be given in the gardens at the height of the season, one at each of the following places :—Kilbirnie, Dalry, Kilwinning, Stevenston, Kilmaurs, and Stewarton.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C." (see 1st page of advertisements).*

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

THE "WEED" FOUNDATION.

[2502.] I was somewhat surprised to read the statement of Mr. S. J. Baldwin, made at the conversazione of the British Bee-keepers' Association in March last, to the effect that he knew all about the new "Weed" process of making comb foundation. I believe Mr. Baldwin was in the United States in October or November of last year, and visited Falconer's establishment at that time, but no machine like that upon which the "Weed" foundation is now made has yet entered the factory of Mr. Falconer. Mr. Weed left Falconer's place in December, 1894, for the Goold, Shapley, & Muir Co., Limited, Brantford, Ont. The first machine was not completed at the latter establishment before August, 1895, and that was the first of the kind ever built. About October 1, Mr. Weed left for the A. I. Root Co.'s establishment, Medina, Ohio, where several weaknesses found in the machine were strengthened; but the principle was in no way changed, and even there, no machine was in working order until about December 1. The statement of Mr. Baldwin is therefore unjust and misleading. The Falconer Co. did have a machine upon which an attempt was made to make the foundation, but that was abandoned, and only after nearly a year's further experimenting was an entirely different machine built and successfully operated. The Falconer

Company have in fact been corresponding with the A. I. Root Co., with the object of purchasing one of the new process machines. Chas. Dadant & Son, Hamilton, Ill., purchased first one machine and then a second.

Gleanings in Bee Culture says :—

"Just as soon as we got the new Weed process of making foundation nicely under way, we sent Mr. O. O. Poppleton, of Stewart, Fla., sample sheets of the product and sample sheets of the old foundation, same weights and size. These he was to test in the apiary as soon as the weather would permit, to determine the relative sag or stretch of the two kinds of foundation in the hive. After he had made his first tests, he wrote us that the difference was slightly in favour of the new process, but the weather was hardly suitable to arrive at satisfactory results. A month or so later we heard from him again, under date of February 19, giving more exhaustive experiments, the result of which showed that the sag, by the *old process* or dipped foundation he had been trying, was *nearly five times greater* than the new process.

"Mr. Poppleton, cautious as he is, desires to test the matter further, when the weather is hotter, and will report again. He adds : 'It looks as though your claim, that the new method gives extra toughness to the wax, is correct.' Any one who works the two kinds, the new and the old, in his hands can readily see the difference ; and it is not surprising at all that the bees should discover the marked difference in favour of the new foundation. Incidentally it may be remarked that the bees can work this wax in a much cooler temperature than the old dipped product." I feel sure that the spirit of fairness will lead Mr. Baldwin to withdraw his statement. I think he has fallen into an unintentional error.—R. F. Holtermann, *Brantford, Canada, May* 4, 1896.

BEE-ASSOCIATIONS AND COUNTY COUNCIL GRANTS.

BEE-VAN WORK IN SURREY.

[2503.] Your very able article in the May number of the *Record* on "The Surrey Bee-keepers' Association and County Council Grants" is of particular interest to myself as sec. of the Berks B.K.A. It is also a source of congratulation to this Association that our efforts on behalf of bee-keeping in the county of Surrey have borne abundant fruit. Our sincere hope is that the Surrey B.K.A. will act up to the standard necessary to secure the support and co-operation of the Surrey County Council. But without wishing to question your conclusions, I venture to traverse one or two of the statements in the article referred to so far as the history of the matter. I think we may without egotism say that the initiation and, practically, the organisation of the work done in 1894 and 1895 was carried out entirely by the Berks B.K.A, acting, of course, under the instructions of Mr. Macan, Organising Sec. of the Technical Instruction Committee of the Surrey C.C. Not only was this so, but so far as our work being judged, as in any degree unsatisfactory (as is implied in your article), we have testimony to the contrary. Mr. Halsey, speaking at Guildford, when the new Surrey B.K.A. was inaugurated, said :—"They had made arrangements for the Berkshire bee-van to go round the country, and he did not think that anything the Technical Education Committee had done had given so much satisfaction in proportion to the cost. It had marvellously increased the interest which bee-keepers took in the subject, and had probably paved the way for a successful issue of the movement they were about to make." I trust we shall not be accused of over-sensitiveness in this matter, but it is felt that in the face of Mr. Halsey's statement an imputation, such as I have referred to, may fairly be questioned. The work we carried out in Surrey had for its object—first, the promotion of bee-keeping, and, second, the revival of the Surrey B.K.A. The importance of the latter was constantly impressed upon the County Council in our reports, and we have ample evidence of success in promoting bee-keeping in the large number of new beginners in the districts visited. The result is that the new Surrey B.K.A. has started under such promising auspices.

I shall watch with friendly interest this latest form of connection between an Association and a County Council, which, with judicious management, should prove an immense advantage to the bee-keeping industry.

Having regard to the fact of there being so much trouble from foul brood, the two bodies working together should go a long way towards stamping it out even before the advent of the much-needed legislative powers which we trust will be in force before the end of the present season. With this hope the committee of our Association at its last meeting passed the following resolution, which has been sent to each of the county and borough Members of Parliament :—

"That this Committee, having received a report from their expert, stating that foul brood has much increased during the last few years, and this committee having also good reasons for believing that in adjacent counties foul brood is also materially increasing, this committee respectfully request the Members of Parliament for the various divisions and boroughs of this county to give their active support to the Bill which it is expected Government will shortly introduce to Parliament, having for its object the inspection of apiaries, and the lessening and ultimate extirpation of foul brood therefrom."

In wishing a long and prosperous life to our neighbour, the Surrey B.K.A., I speak for every member of our Association. I trust the

part we have taken in re-starting the Surrey will excuse this encroachment on your valuable space.—A. D. WOODLEY, *Hon. Sec. Berks B.K.A*, *Reading, May* 14.

[We regret that anything in the article referred to should even *seem* to imply a reflection upon the effectiveness of the van-work carried out in Surrey by the Berks B.K.A. The idea we tried to convey was that, in view of "the experience gained," it was made clear to those appointed to deal with the matter, that the management or direction of any future work in the same line should be in the hands of such members of the new Association as were practical bee-keepers, rather than left to gentlemen who—however able in other ways—were entirely lacking in bee knowledge. We are therefore very pleased to print Mr. Halsey's appreciative remarks—in which we entirely concur—regarding the value of the help rendered to bee-keeping by the tours of the Berks bee-van, quoted by Mr. Woodley.

For the rest, let us say the facts upon which the article in our monthly are based were obtained from an entirely reliable source. We heartily wish the same could be said for the otherwise commendable resolution passed by the committee of Berks B.K.A. so far as "the Bill which it is expected Government will shortly introduce to Parliament." Where this information has been obtained it is not for us to say, but we sadly fear it is far too good to be true.—EDS.]

"NOTES AND QUERIES."

[2504.] In a recent number of the B.B.J., the date of which I unfortunately cannot remember, one of your correspondents, in writing about non-swarming chambers, stated—if my memory does not deceive me—that, in the same way as "super" denoted a chamber above the body box of a hive, so "nadir" denoted a chamber below the body box. Will your correspondent complete his information by telling us to what language "nadir" belongs?

For the past six weeks most bee-keepers will have noticed a strong and almost unpleasant smell coming from their hives; this smell is frequently attributed—wrongly, I think—to the honey that the bees gather from the gooseberries. The gooseberry-honey cannot, in my opinion, be the cause of this strong smell, as in most parts of England the gooseberry flower has been over for very nearly a month; and until quite recently the hives have smelt quite strongly of the scent referred to. I think it most likely that the smell issues from the dandelion-honey, on which flower the bees have been busily engaged during the last month; and now that the dandelions are going over the smell also is becoming less and less obtrusive. It would be interesting to know if you or any of your correspondents support this view, and if so, whether dandelion-honey is as palatable as its aroma would lead one to expect?

Mr. Geo. Walls's letter (2496) on "Balling Queens" is interesting, and it seems very probable that his theory may be a correct one. But I cannot help thinking there is something in the old protection theory that bees at first crowd round the queen to protect her, and their movements being mistaken by the other bees in the hive, they end by killing her. I have on two occasions induced bees to "ball" a queen in an observatory-hive by introducing alien bees into the hive, though unfortunately I was unable to see whether it was the natives or "Uitlanders" that commenced the "balling."

This year I am using several of the old-fashioned reversible section-crates which I have never used before. The crates, as doubtless you are aware, are in two parts, which are fastened by two wooden screws at one end, one in each part, being screwed tightly against the dummy-board of the crate. During the short time I have had these in use, I have found out a great objection to them, which is that after the crate has been on the hive a day or two, the screws work loose, and so, unless lifted off the hive very carefully, the crate comes in two parts. Will any one suggest a remedy?—COTE BANK, *May* 16.

[The "reversible super" craze had its day, and having, as we think very properly, dropped out of use, we hope that no attempt will be made to start it again.—EDS.]

AN APPEAL

TO CUMBERLAND BEE-KEEPERS.

[2505.]—Referring to Mr. Hutchinson's letter, 2466 (page 145) of B.B.J. for April 9, *re* his offer to make a map of Cumberland showing the districts affected with foul brood, he informs me that his appeal has met with but scant response. Now this is certainly not as it should be; and Cumberland bee-keepers must surely have overlooked the appeal, or they would not fail to recognise the desirability of having such a map as the one proposed to be got up for them? I ask, therefore, that *all* Cumberland bee-keepers will communicate with Mr. Hutchinson, who will send them, gratis and post free, suitable forms, which the very simplest will have no difficulty in filling up. I would also add that those desiring to join in the movement for the formation of "Cumberland Bee-keepers' Association" should communicate with him as early as possible.—H. BARROWS, *The Station, Eskmeals, viâ Carnforth.*

REVIVING THE SCOTTISH B.K.A.

[2506.]—Referring to the appeal to Scottish bee-keepers (2485, p. 176), it is pleasing to note that Mr. McClelland has given off what I may call the "first swarm," so far as rousing up our Scotch bee-keepers. I have not the

slightest doubt that the Lanarkshire County Association will not be the last to assist in the work of resuscitating the S.B.K.A. Our president, Mr. Hosier, who as M.P. for South Lanarkshire takes an active part in the county association, and would no doubt consent to occupy a position in the revived S.B.K.A. Then there is the Hon. Lord Ruthven, who is himself an enthusiastic bee-keeper, he, too, would probably take a lively interest in it. Our chairman also, Mr. Gordon, who is one of the oldest members of S.B.K.A., will surely give a helping hand to draw the committee together, and insert new blood in our ranks, including the local secretaries of the several counties of Dumfries, Berwick, Lanark, and Kirkcudbright. May I suggest that the rev. gentleman of Inchinnan, who hails from The Manse, will call a meeting at an early date in Glasgow through your valuable paper?—M. H. PATERSON, *Larkhall, Lanarkshire.*

THE PROPOSED B. K. ASSOCIATION FOR HERTFORDSHIRE.

[2507.] The suggestion made last year for the formation of an Association in this County is likely to be shortly an accomplished fact. A meeting of bee-keepers and others interested was held on Saturday last at St. Albans, when the subject was discussed and the following resolution carried: "That in the opinion of this meeting it is desirable that an Association of Bee-Keepers should be established for the County." A small committee was appointed to draw up rules, to be submitted at a meeting arranged to be held on Saturday, 30th inst., at three p.m., in the "Bath and West" Society's Showyard, by the kind permission of its Secretary, Mr. Plowman.

A good attendance is anticipated to assist in the launch of the new Association on its voyage of usefulness to its members, and the furtherance of the honey industry throughout the County.—J. H. NEW, *Watford, May* 18.

A SWARMING YEAR.

AN EXPERT'S RECENT EXPERIENCE.

[2508.] Swarms everywhere! Such is the order of the day. The first in this part came off on April 29, but for the last fortnight, while on my spring tour, I have found swarms very abundant. On the 12th inst. nearly every member visited had got a swarm or two, and I was greeted with, "I am so glad you have come, the bees have swarmed." As may be guessed, I had a busy time of it. Several novel cases of truant swarms cropped up among my experiences. I saw one settled in a tree in Poultney-street, Bath. A lot of people were looking on, and one man had tried to hive them, but failed to secure the queen, consequently the bees returned to the tree again. I inquired if any one claimed the swarm, and found that no one even knew from whence they came. I therefore obtained a small flour bag, borrowed a ladder, and ascending brought the bag well up round the cluster, A sharp shake of the branch, and in went the bees. Quickly closing the mouth of the bag, I descended, and before the crowd had recovered from their surprise was on my "byke" and away, swarm and all. On the 12th I was at Timsbury, eight miles out from Bath There was a swarm "off" in the village street; and several cottagers trying their best to capture them, "tanging the bees" with a vengeance. One had a saucepan-cover and a spoon, a second rattled away with a tray and poker, another performed with a kettle and fork. "For goodness sake," said I, "stop this din, it won't make the bees 'pitch' (the term used in this part for clustering)." But all to no purpose; they banged away, and rather roughly asked "What I knew about bees?" However, I stood in the thickest part of the now gathering swarm, keeping a look-out for the queen; and, as luck would have it, caught her. The fun then began. I at on said to the crowd, "Look here, I am going to make the bees 'pitch' on my hand." I held the queen for a few minutes between my fingers, and when the bees began to cluster, I allowed her to run on the back of my hand, the bees clustering fast round her. At the same time I jokingly calling out to the bees to "come on, and pitch on my hand." The surprised rustics actually thought the bees were obeying my orders. Anyway, they ceased their tanging, and one woman declared, "the bees will sting the man to death." I took the trouble, however, to explain to them that it was the act of catching the queen that made the bees cluster there. If I had not been on my expert round I should have been tempted to put the bees in my veil, and sling them round my neck, and carry them off, but having members in the same village, I tried to find an owner. This brought on an interesting episode. When I had the bees on my hand the vicar's gardener came round with skep in hand and claimed the bees, the "tangers" contending that they came from an opposite direction. To decide the point of ownership, I went round to see if a swarm had recently issued from the gardener's hive, only to find an empty hive with foul brood combs, the bees having died of foul brood! It was evident to me this truant swarm was making straight for this hive, as some of the bees had actually reached and had entered it. Thus my "trick" of catching the queen prevented the starting of another pest house, which would have proved a home of destruction for them, as it had done for a swarm put there last year, for so I learned from the gardener. This is how the pest is spread! As regards the season, I have never known honey to come in faster than at the present time. One cottager's single stock bringing in 40 lb. in one week. I found

some stocks with two crates of shallow frames almost completed. I took off first sections on May 11. What we want now is forty-eight hours' steady rain, then I think '96 would be one of the best honey seasons we have had for some time.—F. MARTIN, *Expert, Bristol and District B.K.A., May* 16.

SWARMING VAGARIES.

[2509.] The following may perhaps be thought of interest. On the 5th inst. I had a large swarm from a glass hive which I call No. 6 (I have reason to believe that a swarm which issued on the 1st came from the same, but as I have no positive proof of it, this must pass). On the evening of the 5th my junior gardener—who until quite recently has done no more with the bees than keep as far away from them as possible—drew my attention to a queen on the ground behind the swarmed hive. I placed her on the floor board, and she went readily in. Two days later another heavy swarm came from the same hive. We took six queens from it and then returned the bees to the parent hive. Next day they came out again. We found one dead queen near the hive, and took two living ones from the swarm, after which it was again returned. Having supered the hive, I thought the excitement was over, but on the 13th the swarm came out again. This time we found four queens, took them away, and returned the bees as before. Thus we had found in all fourteen queens, twelve of which we *know* belonged to these three swarms. My head man, who has for the last few years been a distinct help, and was present assisting the whole time, joins me in vouching for the above, which is to us a unique experience.—F. V. HADLOW, *Buxted, Sussex, May* 14.

LATER.

I add a line to my note of the 14th to say that to-day (15th) the same bees have again swarmed, and this time also two surplus queens were removed from the swarm before returning it, making sixteen in all.—F. V. H., *Buxted, May* 15.

[The very troublesome experience of our correspondent—as detailed above—shows how futile it is to return bees with the view of preventing the issue of further swarms, without first cutting out queen cells.—EDS.]

BEES IN NORTHANTS.

[2510.] Not having sent you a line since last year, I want first to thank you for the good advice, which comes at all seasons, to your readers. My bees did fairly well in 1895, and I secured about 300 lb. of honey in all. Nor had I any trouble to sell it. I make it known in autumn that any one can have what they want at 8d. per lb., supplied in their own vessels, and, as it is warranted pure as taken from the bees, I have no trouble in selling out. I have fourteen stocks in frame-hives and eight in skeps (two of the frame-hives are on the "Wells" plan). These I intend to make a trial of before going in for any more double-queened ones. My garden is large, and in it I have three large beds of white rock (*arabis alpina*), altogether fourteen yards long by one wide. These were in bloom early in February, and are not done flowering yet. Wallflower and borage is out in full bloom with me. It does one good to see the thousands of bees working on them—no better bee-plant than *arabis*, to my mind. I wish all the bees' friends a successful year, and hope those who give us such wise advice in BEE JOURNAL will still continue to do so. —GEORGE BREALEY, *Grendon, Northants.*

SPARROWS AND BEES.

[2511.] A few days ago I was standing near an apple tree in bloom, upon which my bees were working — the hives being only a few perches away — when a sparrow dropped the enclosed skeleton showing that the head and the abdomen were eaten clean out. I tolerated sparrows, believing that they did not do much harm and that they were useful destroyers of injurious insects, but now I feel differently towards them. — T. G. PEEL, *Armagh, May* 12.

Queries and Replies.

[1469.] *Age at which Queens begin to Lay.* —1. I don't see it clearly marked in either of your journals or in Cowan on the *Honey Bee*, at what age a queen mates, I find no eggs on the twenty-first day after a swarm, I therefore do not know how to account for the time (*i.e* "we are told she lays three days after mating"), how long then intervenes between the top swarm leaving and the young queen mating? 2. In sending a queen by post, what kind of food should I put with her, and how made? If I give capped honey, it is liable to run all over box and smother bees.—E. B. DROUGHT, *Dublin, May* 10.

REPLY.—1. It is impossible to fix the exact date at which queens mate; consequently we can do no more than repeat what has already been said, viz., that the time varies from five to twenty, or even more, days according to the weather. The average time of mating is five to seven days after birth; and egg-laying usually begins from the third to fifth day after mating. All the information asked for above appears in the book to which you refer, viz., *The Honey Bee* (see pages 9, 14, and 141). 2. Moist, granulated honey will do, or failing this, make a thick paste by kneading

sufficient of the very fine sugar used for icing purposes with liquid honey. A proper travelling-cage, having a compartment for the food, should be used for sending queens by post.

[1470.] *Uniting Nucleus Colonies to Stocks after Swarming.*—It is usually recommended that we should have young queens on hand ready to unite to a stock after swarming. Some advice on this point might be useful just now in view of coming swarms. Suppose I have a nucleus with young queen and three or four frames of bees, and a swarm comes off one of my hives, which I wish to keep separate from the parent stock, how is this nucleus to be united to the queenless stock? It is impossible in a case of this kind to provide beforehand that the nucleus shall be close to the hive that sends a swarm off. If the queen be taken out of the nucleus and given to the stock, what becomes of the rest of the nucleus bees? Or would it be possible to move the stock directly after sending off a swarm to the nucleus location without loss of bees?—C. E. C., *Hull, May* 5.

REPLY.—When the bees swarm, cut out all queen-cells from parent stock. Twelve hours afterward cage the queen in nucleus hive on a frame of honey; scent both stocks, and join in the usual way. It would be well, if convenient, to gradually bring the nucleus into close proximity with another stock, so that any bees returning to the old stand may find a home. If a warm corner is reserved for nuclei—as is usually the case in a fairly large apiary—no trouble need be taken. Any foraging bees returning home laden will be welcomed in the nearest hive.

[1471.] *Bees and Workshops.—Swarms for Comb Honey.*—I have four hives in my garden close to a workshop, the extension of which brings the builders within about six or eight yards from the nearest hive. There has been no trouble with the bees yet, but I shall be afraid to trust them when apple-bloom is over. 1. What is best to keep them quiet? Would open-air feeding (with thin honey) have this effect? If I can do nothing else I shall hang a large sheet to form a partition. 2. I have often seen swarms mentioned in connection with the production of comb-honey; are these better for comb-honey than established stocks? and, if so, why? 3. Should the swarm (if artificial) be made before the honey-flow commences? How many frames of foundation should be given to a swarm if spaced 1¼ in?—A. P. LEARNER, *Chelmsford, May* 11*th.*

REPLY.—1. Disturb hives as little as possible, and use super-clearer when removing surplus. Beyond this very much depends upon your method of managing bees. Open-air feeding will give no help; rather the contrary. A light lattice-work screen would answer better than a sheet. 2. We cannot say that swarms are better adapted for comb-honey than established stocks, but artificial swarms from which surplus is expected the same season must be made early, and fed for a week after hiving. 3. As many as the bees occupy on the day after hiving.

[1472.] *Claiming Swarms.*—Can I claim a swarm of bees which I am certain came from my hive? The swarm "pitched" or clustered in a neighbour's orchard, but I did not see them go over there. The bees in my hive, however, were hanging out at twelve o'clock in the day, but two hours later were gone, and I could hear nothing of them until the following day, when I learnt that my neighbour had got a man to hive them in a skep. The orchard is about fifty yards from my garden, and the occupier does not keep bees, nor are any kept within a quarter of a mile. On my applying for the bees my neighbour refused to give them up. I should esteem your opinion on the matter very much as to whether I can claim them.—LEGAL, *Wilts.*

REPLY.—The legal view of ownership in swarms is that the bees must be kept in sight from the time they leave the hive of the owner till they settle and are claimed. If lost sight of, as in your case, it is almost certain an action at law for recovery of the swarm would fail.

Echoes from the Hives.

Duns, Berwickshire, May 11.—I had a fine swarm to-day (May 11) from a bar-frame hive (ten standard frames). This is the first I have heard of in the district, and is much earlier than usual; the end of the month being considered about the earliest that swarms may be expected in this neighbourhood. The weather has been throughout dry this spring, and lately unusually warm; and the bees have been enabled to take advantage of fruit and forest tree blossom (planes, &c.) with a vigour quite unusual in these northern regions.—ALLAN A. FALCONER.

Aspatria, Carlisle, May 16. — We are having extraordinary weather for May, from 75 deg. to 83 deg. in the shade, and in the forty-two years I have had bees I never saw such a flow of honey in May before, and so early in the month, too. I doubled five hives on the 9th, and put sections on three (two racks on one of them), and to-day I was astonished at finding both frames and sections quite half full of honey. There has been a good deal of swarming about, but I try to prevent that as much as possible, and have had none as yet.—JAS. THOMSON.

Heathfield, 11th May, 1896.—My first swarm of the year came off Sunday, May 10th. This is the earliest date that I ever had a swarm from a frame hive. I found my stocks on examining them 9th inst. much forwarder than usual (I don't know if this is general this year), and I am also happy to say I could not find any trace of disease among them, which I am almost surprised at, but which I attribute in great measure to my persistent use of disinfectants in the hives.—HY. NEVE.

More Early Swarms.—An exceptionally early swarm of bees is recorded at Heddon-on-the-Wall. A hive, the property of Mr. Thomas Berkeley, having shown signs of swarming for some days, came off on Monday, May 11, at mid-day, and was successfully hived. The swarm, a very strong one, settled on a privit hedge, only twenty yards from the hive. Mr. Alexander Spark, Hutton, Berwickshire, and Mr. Allan A. Falconer, jun., Elder Bank, Duns, had swarms of bees on Monday. This is about three weeks earlier than usual for bee swarming on the Borders. On the afternoon of May 12 Mr. Jos. Atkin, Wentworth, near Rotherham, had a swarm of bees. This is one of the earliest in the neighbourhood. A swarm of bees were hived from an Edinburgh street-lamp, in the globe of which they had taken refuge, on Monday night, May 12.

Bee Shows to Come.

May 27 to June 1.—Bath and West of England Agricultural Society at St. Albans. Bees, hives, and honey. Entries closed.

June 9 to 12.—At Eastbourne, in connection with the Royal Counties Agricultural Society's Show. For Schedules apply as below. Entries close May 22.

June 10 and 11.—Bees, hives, and honey, in connection with the Essex Agricultural Society's Show at Brentwood. For schedules of honey department, apply E. Durrant, Hon. Sec. Essex B.K.A., Chelmsford. Entries close May 27.

June 22 to 26.—Royal Agricultural Society at Leicester. Entries closed. All letters relating to Bee Department of above Shows to be addressed to Edwin H. Young, Secretary B.B.K.A, 12, Hanover-square, London, W.

July 1 and 2.—At Ramsgate, in connection with East Kent Agricultural Society's Show. Entries close June 18. Schedules ready shortly from Henry W. Brice, Hon. Sec Kent B.K.A., The Apiary, Thornton Heath.

TRADE CATALOGUES RECEIVED.

F. Sladen, Ripple Court Apiary, near Dover.—We venture to say there is not a similar "List of Bee-hives and Bee-keepers' supplies" to Mr. Sladen's in the three kingdoms. It is in fact unique and, as a curiosity, will well repay the cost (2d.) of purchase. Instead of employing printer, draughtsman, or engraver to produce the book it has evidently been executed—text, blocks, and printing—entirely by Mr. Sladen himself. Moreover, it is printed by Sladen's patent electrostyle. There are also some good and original ideas in it in the shape of novelties in bee-appliances.

George Rose, 50, Great Charlotte-street, Liverpool, and 44, Fishergate, Preston.—This list, though consisting only of eight pages, is very concise, and, for its size, comprehensive, everything needed in modern bee-keeping being included. It would be difficult to include more useful and varied information in a small list than in this. We are also glad to note that Mr. Rose makes a special feature of prompt despatch of all orders. A feature which will no doubt be appreciated.

H. Hutchings, St. Mary Cray, Kent.—Some very moderate-priced goods are illustrated in this list of twenty-two pages. Among them the Cottager's Hive at 8s. 6d. is indeed—as described—a marvel of cheapness. Some other good and useful hives are illustrated and fully described.

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

PETER (Cambridge).—*Date of White Clover Yield.*—1. It is not possible to give the "exact date" asked for with reference to sectioning for clover honey. The plant blooms in warm southern districts as early as the first week of June, while in the north of Scotland it is well on in July before bees gather nectar from it. In Cambs. they will probably be storing from clover about the 6th or 8th of June. 2. You had better set the "weeping" sections on before honey is plentiful outside, or the bees will not very readily appropriate contents in the way desired.

H. A. C. (Wickham Market).—*"Wells" Hives.*—1. Of course we do not know your views as to what constitutes a good "Wells" hive, but as readers of this journal have had full opportunity for seeing what manufacturers consider to be suitable hives for the "Wells" system it forces the conclusion that you have but recently become a reader of the B.B.J. 2. The perforated dummy can be had from Mr. Wells himself. Address—Aylesford, Kent.

W. A. WARREN (Hants).—*Preventing Swarming.*—1. Of the two small bits of comb sent, No. 1 was smashed flat in post, and we could find no trace of cell-contents. No. 2 had in it four or five larvæ, which seem free from foul brood, but whether dead or not when taken from the hive we cannot say. 2. In endeavouring to prevent swarms, it is less labour to let the swarm come off and then cut out all queen-cells than to upset the hive every six or eight days to examine for and cut out any queen-cells found on combs. Neither course, however, is a certain preventive of swarms, unless the same care and trouble is continued, so long as drones continue flying. 3. See reply to Anxious Bee-keeper, p. 197 of last week's B.J. 4. Hon. Sec. of the Hants B.K.A. is the Rev. W. E. Medlicott, Swanmore Vicarage, Bishop's Waltham.

R. R. JONES (Co. Wicklow).—*Full Sheets of Foundation for Swarms. Space below Frames in Stock Hives.*—1. Half an inch is not too much space between bottom bar of frames and floorboard. 2. No need to find water-troughs for bees with a running stream fifty yards away. 3. When swarms have full sheets of foundation given them it should be "wired" in.

A. H. (North Bucks).—*A Beginner's Queries.*—1. Comb like that sent—very black and old, with cells full of mouldy pollen—are only fit for burning. 2. Beginners generally will do best by following such methods of bee-work as have been proved by experience to be best. When you say, Why not instead do so and so? we can only add it is open for all to try improved plans of their own, and advocate them if successful; but meantime give orthodox methods a chance. 3. We do not quite "catch on" to the meaning of this query as to bee-ways. 4. Sections need no sand-papering.

ALIQUIS (Birmingham).—1. What you call a "chalky deposit" is simply hard, dry pollen, placed in the cells by bees in the ordinary way. No expert worth the name would think of doing as you say. If he used cloths at all, and had spread one over the frames of a hive found to be affected with foul brood, he would include burning the cloth in the precautions taken when disinfecting preparatory to visiting healthy hives.

J. JONES (Newent).—*Runaway Swarms.*—If swarm is not lost sight of until they "cluster" you can follow and claim them. But should any damage be done you would be liable to make same good. (See p. 207.)

WILLIAM AMES (Norwich).—*Size of Holes in "Wells" Dummy.*—The perforations must on no account be large enough to allow workers to pass through them, the object of the dummy being to keep worker bees as well as queens apart. As to propolisation of the holes by bees, and other points referred to, you ought to read Mr. Wells's pamphlet on his double-queen system in order to understand it properly.

A. E. C. MAY.—We have made inquiry as to the appliance referred to, and fear it will be difficult to get manufacturers to take it up, except to make them to your order. The same may be said of advertising. We will be very pleased to do this, but the risk will be entirely your own.

A. B. C.—In view of the large number of healthy hives contiguous to a single diseased one, we advise entire destruction of the latter so far as bees, combs, and frames. But if alternative measures are preferred, and bees are sufficiently numerous to make it worth a trial of curing the disease, get the bees off the combs at once, and burn the latter with the whole of the contents, frames and all. Confine the bees to an old skep for forty-eight hours, and then return them to a clean hive, having frames fitted with starters only of foundation, and feed with medicated syrup.

HENRY LOCK (Tottenham). — The Hon. Secretary Essex B.K.A., is Mr. Ed. Durrant, Chelmsford. In painting use good quick-drying material and allow same to get thoroughly dry before introducing the bees.

SCOTCH BEE-KEEPER. — *Bad case* of foul brood. As bees are apparently weak, we should burn bees, frames, and comb, and disinfect the hive.

REGULAR READER (Stoke).—Comb is badly affected with foul brood. See reply to "A. B. C." above. All hives are liable to infection, but frame hives are more easily dealt with than skeps by reason of their movable combs.

W. J. CROOK.—Comb is affected with foul brood.

A. J. WATKINSON (Preston, Hull).—We do not know if it is yet decided whether an examination of candidates for third class certificates will take place at the Yorkshire show; but, if so, it will be duly announced. The question as to the examination of last year has been referred to the Secretary of the B.B.K.A., who will no doubt reply.

*** In response to numerous inquiries as to the date of issue of New Edition of the "Guide Book," we may say the book is now ready for press, and will be out in about a week.

Special Prepaid Advertisements.

Situations, Publications, Bee Plants, &c. — Up to Twelve words, Sixpence; for every additional Three words or under, One Penny.

STOCKS, Nuclei, Swarms, and Queens.—Address, Rev. C. BRERETON, Pulborough, Sussex.

QUEEN'S, 4s. 6d.; Nuclei, 10s.; Stocks, 20s. Apply, FRANK REED, Portslade, Sussex. L 82

FOR SALE, Strong STOCKS on frames at 21s. LEY, Easton, Stamford. L 74

WELL known Bee plants, Borage and Canadian BALSAMS, 50 mixed, post free 1s. 3d. Apply, J. T. HICK, Sherburn, East Riding, Yorks. L 75

SWARMS Booked in Rotation, 3s. 6d. lb; Skeps, 1s. 6d.; Stocks complete in Bar-frame Hives, 25s. WEATHERHEAD, Redbourn, St. Albans. L 58

STOCKS, 20s. Strong Healthy Swarms, 10s. 6d. Packed free. REV. JARVIS, Stonehouse, Glos. L 59

PURE IMPORTED ITALIAN QUEENS 7s. each. Cash with order. J. S. GREENHILL, 80, Graham-road, Wimbledon.

BEEKEEPERS should try PATERSON'S SCOTCH-MADE MEDAL HIVES and APPLIANCES. PATERSON, Pollokshields, Glasgow. L 11

EARLY SWARMS WANTED. State price and full particulars to GEORGE ROSE, Great Charlotte-street, Liverpool.

TWENTIETH YEAR.—Pure Black Swarms, 5s., 10s. 6d.; extra, 15s. Nuclei, 2s. 6d., 5s. Queens, 3s. 6d., post free. ALSFORD, Expert, Blandford.

WHAT OFFERS (stocks or hives), for strong SAFETY BICYCLE, thin tyres. WALLACE, 26, Pall Mall, Manchester. L 97

ENGLISH BEES.—Swarms 10s. 6d. each, or 2s. 6d. lb. Safe arrival guaranteed. THOS. DENNIS, Rempstone, Loughboro'. L 96

SCREW CAP, 16 oz., Honey Bottles. English make, 10 doz. for 12s. 9d. Order early. GARNETT, Steade-road, Sheffield. L 93

HEALTHY SWARMS 3s. per lb. Prompt delivery. Packing free. LEMIN, 294, Hoe-st. Walthamstow. L 88

FOR SALE.—New Standard FRAMES. Made up, saw cut in top, 9s. per 100, 5s. for 50. WALTER ADAMS, Welwyn, Herts.

BORAGE for Bees. Blooms all the Summer right up to Autumn. Seedlings now ready, 100 1s. 6d., 250 3s., 500 5s. Carriage free. Apply, WM. CARR, Wilpshire, Blackburn. L 90

BEE NECTAR all day long by planting Borage near hives. One dozen plants 6d. Battleford Farm, Axminster. L 92

STRONG NATURAL SWARMS, 3½ to 4 lbs., 12s. 6d. Never seen foul brood. Orpington eggs, Cook and Smith's strain, 2s. 6d. dozen. MIDDLEMASS, Stamford, Alnwick. L 91

FOR SALE, SECTION RACKS to hold 21 1-lb. sections with tin dividers. Sample sent. 2s. 6d. post free. WILLIAM MILNE, Russell-street, West Hartlepool. L 80

LACE PAPER for GLAZING SECTIONS. 100 strips, 7d., 200, 1s. 2d., 300, 1s. 6d., 500, 2s. 3d., 1,000, 4s. Post free. Best quality. Neat patterns. W. WOODLEY, Beedon, Newbury.

BEES now ready. Splendid Workers. From one single hive last season I extracted 216 lbs. Guaranteed healthy natural Swarms; 3½ lbs. to 4 lbs., 12s. 6d. each. Packing and box free. A. TWINN, Apiary House, Ridgwell, Halstead, Essex. L 78

Prepaid Advertisements *(Continued)*

BEES.—Healthy natural Swarms, a few to offer. —For price, apply, GILES, Cowsfield Apiary, Salisbury.

JOINERS WANTED. Used to bee appliance making. —Apply WALTON, Muskham, Newark.

NATURAL SWARMS. My well-known strain Pure Natives, 3½ lbs. to 4 lbs., 12s. 6d. each. Guaranteed healthy and safe arrival. Orders in rotation. Packing included. WHITING, Valley Apiary, Hundon Clare, Suffolk. L 98

"HONEY AND ITS USES," 1½d.; 3s. 6d. per 100. Also "MEAD, AND HOW TO MAKE IT," and "VINEGAR FROM HONEY," each 2½d. Small sample bottle of Honey Vinegar, 7½d. Rev. GERARD W. BANCKS, The Green, Dartford.

FOR SALE, 26 strong STOCKS of BEES in frame hives; also 14 Spare Hives, with built-out combs. All the above with Lee's frames and W.B.C. ends. Also 40 crates (Abbott's) and 24 lifts, extractor, honey tins, &c., &c. All hives, &c., are inter-changeable and in perfect condition. No foul brood. Bid wanted for lot. Apply, ARTHUR J. H. WOOD, Bellwood, Ripon.

NOTICE TO CUSTOMERS.

I shall be pleased to see any of my customers at the BATH and WEST SHOW at St. Albans, at No. 7 Stand, and to those who have come from a distance and have not seen my works, they are cordially invited to pay them a visit whilst so near.

T. B. BLOW,
Welwyn, Herts.

E. J. BURTT,

For HIVES made of carefully selected and seasoned wood.
For EXTRACTORS FOUNDATION, SECTIONS, SMOKERS, &c. &c

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Is a very good Railway Centre for the West of England.

Illustrated Catalogue Free.

W. P. MEADOWS, SYSTON and LEICESTER,

FITTINGS OF EVERY KIND. Write for anything you want. We have again increased our Premises and Plant, and can supply promptly, in any quantity, "W.B.C." Ends, ordinary, ⅞, or ¾ wide, or ½ inch; ⊥ Bars, various kinds, Smoker or Feeder Tins Springs or Leather, Buttons, Butts, Rings, Springs, Hive Clips, Tools, &c.

I WILL QUOTE FOR ANYTHING REQUIRED.

SWARMING SEASON, 1896.

Why Bee-keepers use the Patent Hinge Plate SELF-HIVER!

Because it is the only one in the WORLD that has been PROVED and found to be a Success!!

Send post-card for Leaflet to G. W. HOLE, Patcham, Sussex.

FLOWERS, VEGETABLES, & HONEY

"HOW TO GROW FLOWERS FOR EXHIBITION." "HOW TO GROW CARROTS, PEAS, BEANS, POTATOES, &c., FOR EXHIBITION." "HONEY AS FOOD," &c.

LEAFLETS BY MOST ADVANCED SCIENTISTS.

By the distribution of these Leaflets better prices can be obtained by Bee-keepers, and any amount of first-class Honey can be disposed of.

Send P.O. value 1s. for Packets of Leaflets, &c., to T. HOLLIDAY, ASTBURY, CONGLETON.

Editorial, Notices, &c.

FOUL BROOD LEGISLATION.

In the absence of the Chairman of the Joint Committee (Mr. Cowan), a copy of the draft Bill, published in our issue of last week, was sent to the Board of Agriculture, and the following favourable reply, containing valuable suggestions, has been received :—

"Board of Agriculture,
4, Whitehall-place, London, S.W.,
May 19, 1896.

"Sir,—I have laid before the Board of Agriculture your letter of the 25th ult., transmitting draft of a Bill for the better prevention of Bee Pest, and, in reply, I am to say that, although the Board are not in a position to express approval of the Bill on behalf of the Government, it appears to them, as it is now drafted, to be well calculated to elicit the opinions of those who are interested in the subject, and in the event of the Bill receiving the support of the County Councils' Association, it might well be introduced into Parliament with this object by any private member willing to take charge of it.

With regard to the form of the Bill, the Board would suggest, for the consideration of your Association, that paragraphs (ii.) and (iii.), and the offence paragraph, should be struck out of Clause 4, that Clause 5 should be struck out, and that in Clause 6 there should be inserted powers to make bye-laws for :—

(*a*) Prescribing and regulating the destruction of any infected stock of bees, product of bees, hive or appliance used for bees, and the payment of the Local Authority of compensation for such destruction, the compensation for any stock of bees not to exceed ten shillings.

(*b*) Prescribing and regulating the disinfection of any infected stock of bees, product of bees, hive, or appliance used for bees, and the mode of such disinfection.

(*c*) Prescribing and regulating the movement of any stock of bees, product of bees, and hive or appliance used for bees.

(*d*) Prescribing and regulating the form and mode of service or delivery of notices and other instruments.

Instead of the offence paragraph in section 4, there might be an offence clause extending to the obstruction of the bee expert or any offence against the bye-laws.

Provision might also be made for making the bye-laws evidence (see section 37 of the Diseases of Animals Act, 1894), and possibly for giving power to the Local Authority to take proceedings for any offence under the Act.—I am, sir, your obedient servant,

T. H. Elliott, Secretary.

COMB FOUNDATION.

EXPERIMENTS IN THE USE OF COMB FOUNDATION, AS CARRIED OUT AT THE GOVERNMENT APIARY, ONTARIO, CANADA.

We have been favoured by Mr. R. F. Holtermann, Lecturer on Apiculture at the Government Agricultural College, Ontario, Canada, with a copy of the Seventeenth Annual Report of the work done at the College during the year 1895. So far as bee-keepers are concerned, the main interest in the volume before us will be centred in the "Report of the Apiculturist," which deals with the several sections of work in the Experimental Apiary, headed respectively, "Wintering Problem," "Feeding of Bees," "Moving Bees for Fall Pasture," and "Comb Foundation." The last-named subject will be especially interesting to readers just now, in view of the recent correspondence in our pages on the question of bees refusing foundation, and the merits, or otherwise, of the flat-bottomed foundation known as the Van Deusen make.

We therefore gladly avail ourselves of the privilege afforded for reproducing the results of Mr. Holtermann's experiments and observations in this particular section. He says :—

The use of comb foundation has become general—in fact, few, if any, of those who now keep bees in the movable-frame hive attempt to do without it. At present comb-honey, owing to quality of the comb foundation, is not generally of a kind satisfactory to the consumer. Although it is desirable to get a foundation which—when utilised and added to by the bees—gives a comb as thin as the natural one, many claim that comb a trifle heavier is not noticed by consumers. When, however, the base and bottoms of side walls are materially thickened, and the comb has an artificial appearance, while the wax does not crumble when the comb is broken, the result is that the consumer objects, and the objection is intensified by the comparatively harmless nature of the change. Again, comb foundation and wax is wasted in the extra thickness, and this is no small item, as it is generally worth fifty to sixty cents per lb.

In our experiments, observations were taken along various lines. First, as to what extent —if any—the bees thin the base and side wall of the various thicknesses of comb foundation. Measurements were made, whenever possible, of the weight of foundation compared with the number of square feet and the thickness of the base of the foundation dealt with. Measurements were taken of the comb at the base, the side wall close to the

hive, and half an inch up the side wall. The comb was put on ice, to harden it for the purpose of more accurate measurement; three measurements were taken in this case.

Again, to see just how the bees utilised the comb foundations, three tanks of melted wax were prepared. In one the wax was coloured with a preparation of alkanet, another with a preparation of carbon, and the third was pure beeswax, uncoloured. The various stages in the manufacture of comb foundation were carried out, giving foundation from each tank, 10 ft., 12 ft., and 15 square ft. to the lb.

These were placed side by side, and drawn out in upper stories by the bees. It was manifested in various ways that the bees objected to the foundation coloured with alkanet; so this kind was discarded. To that coloured black with the preparation of carbon the bees did not object. The idea in placing foundation made of ordinary wax alongside of the coloured samples was to make measurements of each kind when drawn out by the bees. The measurements of the coloured and uncoloured being identical, gave us a basis for the statement that the bees did not object to carbon colouring, and the methods of drawing out this comb were identical with that of ordinary foundation. The base and lower part of the comb were not—as we might expect—of a black colour, and the fresh and added wax, white; but instead there is a regular gradation from black at the base to white at the top of the cell. The heavier the foundation the darker the base and adjoining side wall.

From the above it would appear reasonable to expect that bees keep adding scales of newly-secreted wax and then pulling the side wall, thus decreasing gradually the percentage of coloured wax. We also conclude that the quality of wax used in the foundation has an influence, not only on the base, but to a certain extent in almost the entire wall of the cell. The heavier the foundation the greater the influence on the side wall. Again, notes were taken daily when the bees were beginning to draw out the foundation, and although the heavier foundation was scattered about in various parts of the upper stories, they gave the preference to the heavier foundation, working on it first. Great caution must, of course, be observed in coming to conclusions. The bees, if the heavier foundation had been taken away, might have been almost as willing to begin work at once upon the lighter grade. At present no way appears open for conducting a satisfactory experiment to prove anything in this direction. The measurements—taken at the base of the wall, and half an inch from the base—all tend to show that the wall is thicker at the base, and tapers, becoming thinner at the mouth. So far as I am aware, no one has ever made similar measurements.

The "Van Deusen" is a flat-bottomed (unnatural) foundation. The various specimens

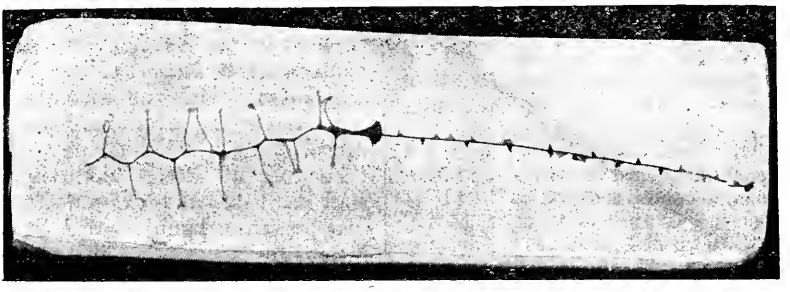


Fig. 1.—Section (*f*) of continuous piece of comb foundation, flat-bottomed (12 square feet to the lb.). One half covered over, the other half exposed and worked out by the bees.

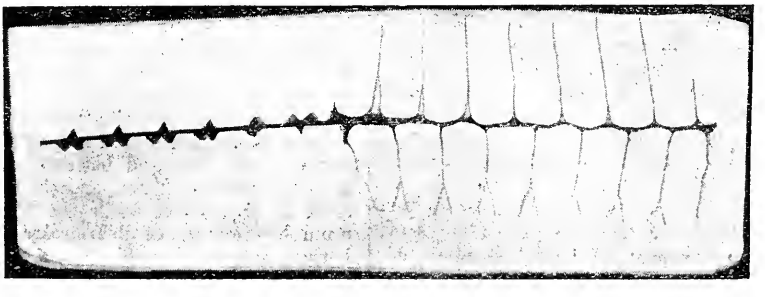


Fig. 2.—Section (*e*) of continuous piece of comb foundation, flat-bottomed (4 square feet to the lb.). One half covered over, the other half exposed, as in Fig. 1.

of this kind which were put into the sections were partially covered to prevent the bees from touching the covered portion. The remainder was left to the bees. In every case the bees changed the base from flat-bottom to natural.

In the tables given below the measurements are one ten-thousandth part of an inch.

Kind.	Base.	Wall at base.	Wall ½ in. up.	Base of foundation before putting in.
(a)	72	32	28	107
	70	30	28	105
	70	30	28	104
(b)	68	33	28	100
	70	35	28	95
	71	33	28	98
(c)	60	30	28	78
	60	29	28	60
	62	30	27	60
(d)*	51	32	28	Could not get a piece large enough to measure.
	55	30	29	
	54	33	28	
(e)	.....	32	23	230
	.....	30	29	.....
	.....	31	28	.....
(f)	.....	30	28	90
	.....	32	28	.....
	.....	33	28	.....
(g)	.....	32	30	170
	.....	33	28	.....
	.....	32	30	.....
(h)	57	.....	.....	.....
	50	.....	.....	.....
	62½	.....	.....	.....
(i)	52	40	28	.....
	55	42	34	.....
	55	40	37	.....

* Owing to the smallness of the piece which could be secured free from the base at either side, it was impossible in this case to get a reliable measurement. It will be seen that, as far as the base is concerned, the measurements of (*d*) are practically as natural drone comb; the side wall is even a little thinner. No measurements of the side wall of natural worker-comb have been made, and for this reason—the comparison has to be taken with caution, being between a worker side wall, built on Vandevort foundation, 12 ft. square to the lb., and a natural drone comb. The combs (*c*), (*b*), and (*a*) (uncoloured foundation, natural base), gradually increase in weight. The Vandevort foundation (*d*) had a light base but a heavy side wall. In the above specimens of foundation there is a vast difference in the number of 4¼ by 4¼ sections, which can be filled by a lb. of foundation.

That with	4	square feet	per lb.	fills 36	sections.
,,	6½	,,	,,	58½	,,
,,	10	,,	,,	90	,,
,,	12	,,	,,	100	,,
,,	15	,,	,,	125	,,

In Canada 1 lb., which will fill thirty-six foundation sections, costs about 50 cents per lb., and that which will fill 135 sections costs about 60 cents per lb. With the latter nearly four times the number of sections can be filled; yet the cost per lb. is increased only 30 per cent. Therefore, if only the question of cost of foundation per section had to be considered, it would pay best to take the lightest.

ABOUT OUR BEES.

BY HENRY W. BRICE.

XIII.

SUPERING.

The placing of supers in position on our hives is a comparatively easy task, but, seeing that bees naturally resent being deprived of their stores, the difficulty comes with many when they are to be taken off. I propose, however, to briefly describe both operations. When a stock of bees has reached the condition as described on page 173, and just a little in advance of their requiring same, proceed—lighted smoker in hand—to open the hive; as at this season bees are usually good-tempered, very little smoke is needed. Remove a few frames gently, just to see that the queen is laying well, and has plenty of room for her purpose, and having satisfied yourself on this point, re-adjust frames, and place the sheet of excluder zinc in position with openings across the spaces between frames. Then set on the rack of section or of shallow frames—already at hand prepared for use—and cover down as warmly as possible. Allow no escape of heat through chance openings, because on the warmth of the surplus-chamber depends much of the rapidity in filling. When the honey flow commences some attention is required in the way of grading the produce, so far as noting the source from whence it is being gathered. This done, combs containing second-class honey should be removed when ready for the extractor, so that when honey of prime quality is coming in there is the satisfaction of knowing we have done our part toward securing more than ordinary results. It is a mistake to permit all honey gathered to be extracted, stored, and sold without regard to its quality. The crop should be graded, valued, and sold at a price in keeping with its merits, not mixed and marketed just for what it chances to fetch. A general mixing up of good and bad honeys will never make a first class or even satisfactory article.

The removal of supers also requires some thought and care, if perfect quiet is to be maintained in the apiary. I prefer the early morning for this work, bees at that time being generally quieter than later in the day. The introduction of the super-clearer and the "Porter" bee-escape has, however, so simplified what was once, perhaps, the most troublesome part of bee-keeping, that removal of surplus honey has now become a merely

formal part of the business. The first necessity is to detach the super from the hive proper; this is done by prising the former gently up with the point of a screw-driver and inserting small wedges at each of the four corners, causing an opening all round, not sufficiently wide to allow of the escape of bees. This done, and having your super-clearer at hand in a convenient position, blow in a little smoke at the opening made by the wedges, grasp the super firmly, and, with a screwing motion, raise it bodily, set it above the clearer, and at once replace super and clearer on the hive again. If an assistant is at hand, it is only necessary to raise the super sufficiently to allow of the clearer being placed between super and hive, when the bees will speedily descend into the brood-chamber below, with no disturbance in the apiary whatever. Of course, the super when placed on the clearer may, if desired, be removed to a distance for clearing of bees, in which case a carbolised cloth should be placed above frames to keep the bees down while quilts are being readjusted, when the carbolic cloth may be withdrawn from beneath without a single bee escaping. Never leave hives uncovered or supers unprotected about the apiary to attract robbers. For this reason it is far better to let supers be cleared of bees on the hives as mentioned. Where, however, this is not convenient, supers must be put into an outhouse, if possible away from the apiary, and when the bees have escaped from the super remove the latter indoors out of harm's way.

In removing section the bees should be disturbed or excited as little as possible, or some of the sections may be spoiled by having the cappings pierced by the bees. This fact makes it doubly necessary to get the sections cleared of bees by leaving the racks on the hives—after placing the "clearer" in position—and letting the bees quietly descend at their leisure into the hive below.

XIV.

SELLING HONEY.

Don't be too desperately anxious about this part of the business if you have a good article to dispose of. If in a very forward district, early sections are, of course, a desideratum, and will realise a good price, but unless you can have sections for sale in April or early in May, wait until the first rush is over; and then, during the period which ensues—when good English honey is not readily obtainable—a sure market will be found at fair price. To obtain this, however, much depends upon the way in which the product is prepared for sale. Cleanliness, neatness and attractiveness are essentials for early sale. Then, as already stated, all honey should be graded according to its quality, colour, &c. As to sections, freedom from defects in capping, whiteness of comb, &c., must be taken into account when selecting first and second grades. One bad section deteriorates the remainder, so that great attention should be given to these points.

When selling in large lots, uniformity of jars and labels should be seen to. Very inferior honey should never be placed on the market at any price; far better to use it for feeding the bees, or for such purposes as the making of mead, honey-vinegar, or to many other uses described in the little pamphlets of our friend the Rev. G. W. Bancks, to which I would refer my readers on this head. By placing inferior honey in the hands of the public much harm is done, and an entirely wrong impression created regarding the merits of good British honey.

Bee-keepers must aim at popularising our product, and removing the idea that honey is a luxury for the sole use of one class. The fact should be made known that it is one of the most wholesome of foods, for the hale and hearty and the invalid alike, and that honey should be found on the table of rich and poor without distinction.

Another thing is quite clear, so far as selling honey, viz., that unless there is an utter inaptitude for trading on the part of the producer, good honey will always find a market. I therefore say if bee-keepers cannot themselves make a market, sell to those who can. I am in touch with a good many who assure me they find a difficulty in meeting the demand at times during the season. Besides, honey properly stored will be sure to find a market when the supply runs short, as it usually does at some period of each year.—*Thornton Heath.*

(To be continued.)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

THE NEW "WEED" FOUNDATION.

[2512.] In a recent letter to us from Mr. J. H. Howard, he encloses a clipping from the BRITISH BEE JOURNAL containing an advertisement of Mr. S. J. Baldwin, in which appears the following statement:—

"I am offered Weed foundation delivered here at just about the price of good wax (1s. 7d. per lb.). This should explain why the Weed make is so highly recommended by some."

Enclosed is a copy of a letter we have just written Mr. Baldwin, who, as we are given to

understand, is perfectly aware that the price quoted (1s. 7d. per lb.) is about the ordinary figure charged in Great Britain to dealers by those who manufacture and sell wholesale. We do not know how Mr. Baldwin's statement impresses the general reader, but to us it seems to have been made with a view of giving the "Weed" foundation a bad reputation. We can, if necessary, furnish a sworn statement that the Weed foundation is made from pure bees-wax of the best quality, and if any impression has been conveyed to the contrary by Mr. Baldwin's advertisement, we hope it will be set right in the B. B. JOURNAL. —THE A. I. ROOT COMPANY, *Medina, Ohio, U.S.A.* (J. T. CALVERT, Sec. and Treas.).

N.B.—Weed's *present* method of wax sheeting is quite different from the one he used at Falconer's, when Mr. Baldwin was at their establishment, and they probably thought the present process was the one used in N.Y., and so explained to Mr. Baldwin.

[Referring to the letter to Mr. Baldwin mentioned above (a copy of which was enclosed with the communication addressed to ourselves), we got no reply to it for insertion in B.J., and consequently wrote requesting a line on the subject for this week's issue, which duly came to hand, and is printed below.—EDS.]

The Apiary, Bromley, Kent,
May 25, 1896.

GENTLEMEN,—In reply to your favour of 23rd inst., I beg to inform you that I received a letter from the A. I. Root Company on 2nd inst. complaining of the wording of my advertisement in the B.B.J., and but for extreme pressure of business and indisposition, I should have written them ere this. I have the greatest possible regard for the members of that firm, with whom I have had none but pleasant business transactions for many years, and of whom I would not say a disrespectful word, especially when remembering their kind hospitality on my visit to their establishment. But after looking over my advertisement in the B.B. JOURNAL, while it certainly does not commend the Weed foundation, I really don't see anything in it to which objection can be taken from an advertiser's point of view. My statements are strictly true, and I think should not be open to greater objection than statements in other advertisements in the B.B.J.

I am informed by the A. I. Root Company that Mr. Howard wrote them a statement of what he alleged I said at the meeting of the B.B.K.A. March 13. Now as Mr. H. was not present at that meeting it would, perhaps, have been wiser on his part to have relied upon the report of that meeting in the B.B.J. than to have accepted a statement made to him by another, which was given in banter or as a "bluff."

I have also just had my attention called to a letter from Mr. R. F. Holtermann in the last issue of B.B.J. (page 202), which requires but few words of mine; it is apparently intended as a gratuitous advertisement. Reference to B.B.J. of March 26 will, however, confute the statements attributed to me by Mr. Holtermann. Why should that gentleman assume that I was at Mr. Falconer's place in October or November? I certainly never made such a statement. I much regret being unable to call, as my recollections of the kind hospitality I received from Mr. and Mrs. Falconer in 1893 was an incentive for another visit.

Mr. Holtermann is correct in assuming that I was in the United States in October and November, but in order, as it seems, to suit his present purpose he has only told half the truth, as I was there also in December and the early part of January last.

In conclusion, the substance of what I have said about the matter is that neither the "Weed" process or any other process can turn out good reliable foundations unless really good bees-wax be used, and I conceded that the "Weed" process was undoubtedly labour-saving.

If the "Weed foundation" proves to be so much superior to other makes there is no reason for either the maker or the dealers to fear competition. I always try to make the most suitable article for the bees and shall continue to do so.—I am, Gentlemen, yours, &c.— S. J. BALDWIN.

[There is nothing in the report of meeting referred to which shows that Mr. Baldwin said he knew all about the process of making the "Weed" foundation, as stated in Messrs. Root's letter to him. The real objection lies in the words quoted from Mr. Baldwin's advertisement, which certainly would convey to some readers a doubt as to the purity of the wax used in its manufacture. We think, however, that the price quoted by Mr. Baldwin as that of the "Weed" foundation is about the ordinary wholesale trade price charged to dealers by those who manufacture comb-foundation in this country, and so the inference means nothing.—EDS.]

BEES IN SOUTH BUCKS.

[2513.] It is some time now since I sent you a line to say how our bees are getting on here in South Bucks. The weather, up to the present, has been all that could be desired for the rapid building up of stocks; swarms now are very frequent hereabout, and everything looks promising for a good harvest from the white clover; but this, like all other vegetation, greatly needs rain to bring it to perfection. Honey is rolling in, and sections and shallow frames are being rapidly filled from the chestnut bloom. On the 9th inst. I had the pleasure of taking off the first sections this year for a friend about a mile and a half from here. They were filled from the fruit-bloom,

of which there are hundreds of acres; but, up to four years ago, there was not a bee located within a mile of all this wealth of bee forage. I am glad to say, however, that cottagers are now taking advantage of these early crops of honey, and many others are going into the craft. During a recent walk I came across a stock badly affected with foul-brood, and asked the owner to destroy it at once, which I am pleased to say he did. If all bee-keepers would agree as readily to do what is so entirely for the good of the whole craft, there would not be so many diseased stocks about; but it is not the cottagers alone who are to blame; I find those in a better position—and who really ought to know better—keep stocks when they are told and know they are diseased.—G. SAWYER, Expert, *Marlow, May* 20.

FOUL BROOD PREVENTION BILL.

[2514.] In your copy of the "Bee-Pest Prevention Bill" I have been trying to read Clause 7 so as to include the removal, sale or disposal of swarms or of queen bees. Doubtless eggs or queen-cells would be included as "products of bees," but swarms or queen bees could not be denominated stocks of bees; and it is very questionable if, under a penal act, a conviction could be obtained on the ground that they were "products of bees," when "products of bees" is a phrase having a distinct meaning of its own, and pretty obvious'y referring to honey, wax, comb, &c. The clause seems to require the addition of the words "or any infected bee or bees" after the words "any infected stock of bees."—S. JORDAN, *Bristol, May* 22.

REMEDY FOR BEE-STINGS.

[2515.] For the benefit of bee-keepers who have much to do with bees, I want to give a word of advice to those who get stung more often than is quite pleasant. That is—extract the sting as soon as possible and apply a little of "Hudson dry soap"—mixed into a sort of paste—over the place. I find it to almost instantly relieve the pain and stop the swelling. I am sure many bee-keepers will be thankful for the "tip." I will send you a detailed account of our bee-keeping in North Wales a little later on.—THOMAS L. SMITH, *The Palace, St. Asaph.*

A WORD TO BEE-KEEPERS.

[2516.] At this season of the year, when the bee-keeper is busy with his stock, I would offer a word of warning to those who find it necessary to use a fumigator.

On Saturday I had occasion to use the ordinary bellows smoker, and inadvertently handled a piece of rag that had been used for dressing an oil lamp. Of course, instead of smouldering, a flame was urged up through the fumigator, igniting the netting, and enveloping my head and face in flames. I received a few nasty burns upon my ears and forehead.

Trusting this may be a timely warning to other small bee-keepers.—A. D. COLLARD, *Bristol.*

EARLY SWARMS IN SCOTLAND.

[2517.] Being a constant reader of the B.B.J., I see several giving notices of early swarming, and now write to say a friend of mine here had a fine swarm on the 6th inst., another on the 8th, a third on the 9th, and a last on the 13th. I think this is even earlier than any I have seen mentioned in your valued paper, bearing in mind that our part of the country is considered to be at least five weeks later than the South of England. I have had no swarms myself, as I am trying Mr. Simmins' plan of preventing swarms, and I hope to succeed.—D. SILVER, *Roseneath, Dumbartonshire, May* 19.

BEE-KEEPING NEAR MANCHESTER.

OPEN-AIR DEMONSTRATION AT FALLOWFIELD.

A very interesting gathering of about 100 ladies and gentlemen interested in apiculture took place at the apiary of the local hon. secretary of the Lancashire and Cheshire Bee-keepers' Association, Mr. F. H. Taylor, Birch Fold Cottage, Old Hall-lane, Fallowfield, on Saturday afternoon, the 16th inst. An o'd-fashioned garden—the apple, hawthorn, &c., all in bloom—nearly a score of beehives scattered up and down, with a thatched black and white half-timbered cottage, seem to carry the visitor, not three miles from Manchester, which was actually the case, but into the heart of England, and without a very great stretch of the imagination he might have believed himself at Ann Hathaway's old home at Stratford-on-Avon. Here, in Fallowfield, for two years, at his own expense without any aid from the Association or County Council, Mr. Taylor has conducted a school of practical apiculture, where instruction in the craft from starting bee-keeping and profitable honey production to more complicated manipulations, such as uniting, artificial, and nucleus swarming, queen-rearing, and other advanced branches could be learned free of cost by all or any, rich or poor, who cared to ask for it. From being one of the poorest districts in the Association it is now, under the guidance of the L.H.S. and his assistant, Mr. Harrison, of Northenden, the largest centre in the two counties, and the two new districts, Sale and Stalybridge, have been made from it. That honey gathering can be profitably pursued on the south of Manchester we have already shown in our previous accounts of the results of Mr. Taylor's bees. But to ensure this favourable result one must pursue

the industry in a systematic and scientific manner and with due regard to the principles of economics. How this should be done was the object of the gathering, which was the last lecture under the joint auspices of the County Council and the L. and C. B.K.A.

Mr. Councillor Price, a newly-elected vice-president of the Association, presided, and, having briefly explained the object of the meeting, introduced Dr. Jones, expert of the British B.K.A., and lecturer to the Association. Dr. Jones then gave a thoroughly practical demonstration of what modern bee-keeping really means, and illustrated his remarks by numerous up-to-date appliances and adjuncts, provided from the store-room of the local hon. secretary. The lecture was rendered most interesting by an object lesson of untold value to beginners. A hive of bees was placed at the services of the lecturer and visitors by their host, and Dr. Jones showed how easy it was to handle bees without fear of any one being stung. Comb after comb, seething masses of living bees, all armed with formidable stings, were taken out without any of the visitors being hurt. The eggs, larvæ in all stages of development to the newly hatching-out bees, were pointed out by the doctor, and the queen, secured in a bottle, was rapidly handed round for inspection. A most instructive and enjoyable afternoon was spent, and a vote of thanks was passed to Mr. Taylor for his invitation, to use his grounds, bees, and appliances on the occasion. Mr. Taylor briefly expressed the pleasure it had given him to see so many ardent bee-keepers present, and declared his readiness to help beginners and all in difficulties so far as his time permitted. Dr. Jones announced that he and Mr. Taylor would probably hold another open-air demonstration later on in the year.

The visiting expert, Mr. W. Herrod, who has been through the whole of Lancashire, says of this apiary in his report:—"It has been a great pleasure for me to go through these stocks. I have not visited an apiary up to the present where the bees are looked after so well. The combs are beautiful and straight, and the hives full of brood and splendidly clean, and reflect great credit on their owner, who does all the work himself."

Echoes from the Hives.

Chichester, May 19.—A very fine April and May so far, and bees doing well. Several stocks on the verge of crowding out brood-nest where supers have not been put on early enough. The hawthorn and snowy mespilus being profuse with bloom at present in this district, if the weather will but hold favourable for another week a quantity of honey will be obtained from this source. There will, however, soon be a cry-out for rain to help on the clover and other grass crops, especially on the uplands of Sussex.—J. DANIELS.

Heckfield, Winchfield, May 25.—Honey began to come in on May 10 in these parts, the source being, I imagine, charlock. It came in plentifully for a week, but the last six days have been cold and wet. I am rather ashamed to say that, in spite of all warning of B B.J., I had only one hive absolutely ready for the flow. I intend to do better another year. I think my queens are a little to blame. With two exceptions they made but slight progress during the latter half of April and first week of May. I shall get a few queens later on from the dealers to improve the strain.—H. E. S.

Queries and Replies.

[1473]. *The "Wells" System.*—Some time since I saw some copies of the BRITISH BEE JOURNAL, and was much struck by the articles on the "Wells" system of bee-keeping. The idea seemed feasible, and I have been making some arrangements to test it. A recent number of *Gleanings* prints a "straw" from Dr. Miller to the effect that the B.B.J. says the "Wells" system is not suitable for novices, and also that it is only adapted to weak colonies. Would you please let me know how this system is really regarded in England? Has it stood the test and become a recognised system, and what can be the objection to using it with strong colonies? I have Mr. Wells' book.—H. P. JOSLIN, *Ben Avon, Allegheny County, Pennsylvania, U.S.A.*

REPLY.—The most we can say is that—judging by the reports which have reached us—some in this country have succeeded remarkably well with the "Wells" system, while with others it has failed completely. The failures may also be noted as happening in a large majority of cases, to beginners. The mention of our views on the subject by Dr. Miller, in *Gleanings*, evidently refers to the opinion we have all along held and expressed, viz., that the double-queen system—while admirably suited to the practised hand—requires at times so much of what is known as "management" as to render it unsuitable for the inexperienced novice in bee-keeping. So far as the last point mentioned in our correspondent's query, there is nothing within our knowledge to warrant or justify the notion that the "Wells" system is "only adapted to weak colonies." At the same time it is claimed, as one of the merits of the system, that by concentrating the working

forces of two weak colonies in one super common to both it enables the bee-keeper to secure an amount of surplus not obtainable by weak lots worked singly. We rather fancy that a "stray straw" in our pages pointing in this direction will have been the only foundation for Dr. Miller's remark. Anyway, there is nothing in Mr. Wells' book to justify the idea referred to, and the extraordinary results obtained by Mr. Wells and others point in an entirely opposite direction.

[1474.] *Novices and Renewing Queens.*—I hived a truant swarm, which clustered in my garden last week. Not knowing where they came from, I am therefore unable to tell how old the queen may be. 1. Should you advise me to kill the present queen and get the bees to rear another if I can? Or, would it be better to leave the matter to their own management? If the former, how old should the queen-cell become before killing the present queen, and how many should be allowed in the combs? 2. Can you tell me what kind of bee the enclosed one is?—NOVICE, *Birmingham, May* 21.

REPLY.—There is no reason why the queen of the truant swarm should be killed. If she proves a good and prolific one we should by all means keep her alive, and cause no stoppage in the prosperity of the swarm by occupying the bees in queen-rearing. Besides, it is risky for novices to start queen-rearing too soon. 2. The bee sent is a cross between a carniolan and the ordinary bee.

[1475] *Bee-keeping Difficulties.*—I have just taken charge of some hives of bees and find myself in somewhat of a pickle in consequence. On lifting off one of the roofs the bees came out like wild-fire, and, on further examination, I found the hive large enough to hold twelve frames, but it had only eight in, and these took up the whole space. Some frames had "ends" on and some were without; fancy a standard frame with comb in it about 3 in. in thickness. I have got sections on to three of the hives (which are all similar to No. 1) with the help of rags to keep the bees in. My idea is to put them on to new frames with full sheets of foundation, and properly fitted with metal ends. Will you please say when I ought to do this? Should it be after the honey flow is over and then feed them up for winter, or is next spring the best time? 2. How can I get the bees of the old combs? I have driven bees out of skeps but never from bar-frames.—AN ESSEX BEE-KEEPER, *May* 20.

REPLY.—1. It would be a pity to upset the bees just now, and so lose the chance of surplus afforded by the present promise of a good honey season. Defer operations, therefore, until about the middle of July, when honey, swarming, and a good portion of the year's breeding will have ended. There will be ample time then for getting combs built out from foundation, and the necessary feeding will be the means of raising a lot of brood very useful for wintering and for next year's work. 2. The bees will have to be shaken from each comb, and allowed to cluster in the old hive as it is emptied of its frames. Remove indoors any brood without allowing it to get chilled, prior to tying it in the new frames for hatching out. This done, return it to the hive, and fill up with the new frames fitted as proposed above.

BEE-KEEPING AS A PURSUIT FOR WOMEN.

It is said that women are often the most successful bee-keepers, and those who live in suitable districts should certainly give bee-keeping a trial, for the sake of either pleasure or profit, or both combined. Those who have given themselves up to the study declare it to be most fascinating. There are, of course, difficulties at first to be overcome, especially as regards stings, but with the many modern appliances at hand the initial stages may be got over with perfect safety, and once an experienced operator you know well enough how to avoid the stings. People who have never inquired into bee-keeping think that a large garden with an abundance of flowers in it is a necessary possession before they could undertake anything of the kind. As a matter of fact, bees can be kept in a corner of a small garden, or even a yard, so long as there is space to stand the hive and plenty of forage within a mile or so. The time one must devote to the care of the hive is really very little, and people engaged during the day can generally spare an hour in the evening to do this. Think of the enjoyment of having your breakfast-table laid with fresh honey from your own hive! Of baking real honey-cakes and making that excellent drink called Mead. Then again, if the young wife likes to add a little to her income she will find bee-keeping a very interesting way of doing so. Many of the objections which the uninitiated are prone to urge are really almost groundless. To those who love the study of natural history bees will furnish any amount of interest.—"BUTTERFLY," in *Morning Leader.*

HONEY IN A HOUSE ROOF.

An extraordinary discovery, says the London *Echo*, has been made at Dover. A Trinity pilot named Hood has had a considerable alteration made in his house in London-road, and while the workmen were engaged in their duties it was found that the interior of the sloping roof was entirely covered with honey-comb and honey, weighing several hundred-weight, evidently the accumulation of years. Much of it is black with age, but a great deal is good, and the removal of it was watched with interest yesterday.

Bee Shows to Come.

May 27 to June 1.—Bath and West of England Agricultural Society at St. Albans. Bees, hives, and honey. Entries closed.

June 9 to 12.—At Eastbourne, in connection with the Royal Counties Agricultural Society's Show. Entries closed.

June 10 and 11.—Bees, hives, and honey, in connection with the Essex Agricultural Society's Show at Brentwood. For schedules of honey department, apply E. Durrant, Hon. Sec. Essex B.K.A., Chelmsford. Entries close May 27.

June 22 to 26.—Royal Agricultural Society at Leicester. Entries closed. All letters relating to Bee Department of above Shows to be addressed to Edwin H. Young, Secretary B.B.K.A., 12, Hanover-square, London, W.

July 1 and 2.—At Ramsgate, in connection with East Kent Agricultural Society's Show. Entries close June 18. Schedules from Henry W. Brice, Hon. Sec. Kent B.K.A., The Apiary, Thornton Heath.

July 8.—At Redhill. The Surrey Bee-keepers' Association in connection with the Borough of Reigate Horticultural Society. *Entries close June* 30. Apply to C. E. Cuthell, Esq., Chapel Croft, Dorking.

July 24 and 25.—Bristol, Somerset and South Glos. B.K.A. shows at Knowle. Schedules from Miss Dawe, Hon. Sec., Long Ashton, near Bristol.

July 29.—Henbury. Entries close July 17 and July 22. Schedules from Miss Dawe, Hon. Sec., Long Ashton, near Bristol.

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

G. G. (Honiton).—*Cutting out Queen-cells to Prevent After-swarms.*—If the judgment of the operator can be depended on—so far as choosing a reliable queen-cell—the removal of all superfluous ones will, no doubt, prevent the issue of after swarms. But it is well to delay the operation till the sixth or seventh day after the "top swarm" has issued, in order to assist in selecting a ripe-cell. All others may then be removed.

Newport.—*Bee-books for Beginners.*—If our correspondent will let us know—by name—what two books he already has, we shall be better able to judge whether or not they are suitable for his purpose.

H. May (Tetsworth).—*Overdosing with Naphthaline.*—1. So far as cause of brood dying in combs, we can only repeat what was said on page 199, in reply to your former communication. There is no foul brood in comb sent, nor can we be quite sure the larvæ was all dead when removed from the hive. To your other queries we reply: 1. Two balls of naphthaline are a proper dose, as printed on the packets sent out from this office. 2. The effect of giving an overdose, say of the common naphthaline used in some trades, would be to kill the brood in the cells by asphyxiation.

H. E. S. (*Winchfield*).—*Honey Ripeners.*—For the purpose stated a honey-ripener is very useful, but certainly not a "necessity" in order to secure good extracted honey. Straining however, *is* a necessity, but this can be done with the help of a bit of fine muslin tied over the mouth of the vessel into which the honey runs from the extractor.

J. Ed. Roden (East Grinstead). — *Bee-parasites.*—The insects on bees sent are the *Braula cœca* or blind louse. Fumigating with tobacco-smoke causes it to drop off the combs, when it may be brushed from the floor-board. The climate of this country, however, is not favourable to the parasite, and it soon dies out.

Rev. F. W. Toms (North Devon).—The only thing "wrong" in the foundation ("Van Deusen" cell) sent in is that the machine on which it has been rolled wants adjusting, as the cell-bases do not fall in their proper relative positions. The wax of which it is made is all right. A few days of warm weather will soon see the bees in supers, all other conditions being favourable.

J. H. H. (Oxford).—We find no disease in comb sent, which latter is full of sealed brood, either "chilled" or dead from some cause not plain from details given.

Albert J. Conder (Ipswich).—*Wax-Moth.*—*Securing Young Queens.*—The fact of the larvæ of wax-moth being found in combs at this season shows that the colony is not prospering, as strong stocks never allow the moth to get a footing in hives. That the queen is old and worn-out is also evidenced by the queen-cells, which show that the bees are preparing to replace her. If the sealed cells are peopled with hatching queens, you might kill the old one at once.

Special Prepaid Advertisements.

Situations, Publications, Bee Plants, &c. — Up to Twelve words, Sixpence; for every additional Three words or under, One Penny.

STOCKS, Nuclei, Swarms, and Queens.—Address, Rev. C. BRERETON, Pulborough, Sussex.

BEES.—Healthy natural Swarms, a few to offer. —For price, apply, GILES, Cowsfield Apiary, Salisbury.

HEALTHY SWARMS 3s. per lb. Prompt delivery. Packing free. LEMIN, 294, Hoe-st. Walthamstow. L 88

PURE IMPORTED ITALIAN QUEENS 7s. each. Cash with order. J. S. GREENHILL, 80, Graham-road, Wimbledon.

BEEKEEPERS should try PATERSON'S SCOTCH-MADE MEDAL HIVES and APPLIANCES. PATERSON, Polloksheilds, Glasgow. L 11

TWENTIETH YEAR.—Pure Black Swarms, 5s., 10s. 6d.; extra, 15s. Nuclei, 2s. 6d., 5s. Queens, 3s. 6d., post free. ALSFORD, Expert, Blandford.

SCREW CAP, 16 oz., Honey Bottles. English make, 10 doz. for 12s. 9d. Order early. GARNETT, Steade-road, Sheffield. L 93

GOOD SWARMS, superior Bees, packed free, price 15s. JOHN WALTON, Honey Cott, Weston, Leamington. M 7

BEES.—Strong, healthy natural Swarms, 12s. 6d. each. Apply J. CRAGGS, Gilling, Richmond. M 6

YOUNG QUEENS, 3s. 6d., post free. Swarms, 10s. 6d. packed. Rev. JARVIS, Stonehouse, Gloucestershire.

GUARANTEED HEALTHY SWARMS, 10s., STOCKS, 20s., both packed free. QUEENS, 3s. 6d. TAYLOR, Derwent View Apiary, Hathersage (via Sheffield). M 3

BORAGE for Bees. Blooms all the Summer right up to Autumn. Seedlings now ready, 100 1s. 6d., 250 3s., 500 5s. Carriage free. Apply, WM. CARR, Wilpshire, Blackburn. L 90

STRONG NATURAL SWARMS, 3½ to 4 lbs., 12s. 6d. Never seen foul brood. Orpington eggs, Cook and Smith's strain, 2s. 6d. dozen. MIDDLEMASS, Stamford, Alnwick. L 91

LACE PAPER for GLAZING SECTIONS. 100 strips, 7d., 200, 1s. 2d., 300, 1s. 6d., 500, 2s. 3d., 1,000, 4s. Post free. Best quality. Neat patterns. W. WOODLEY, Beedon, Newbury.

NATURAL SWARMS. My well-known strain Pure Natives, 3½ lbs. to 4 lbs., 12s. 6d. each. Guaranteed healthy and safe arrival. Packing included. WHITING, Valley Apiary, Hundon Clare, Suffolk. M 2

TWO SWARMS of BEES, issued on Tuesday. Splendid workers; young queen; 12s. 6d.; skep 1s. 6d. extra. Apply E. PHILPOTT, 18, Bedford-road, Hitchin, Herts.

ENGLISH BEES, Swarms, 12s. 6d. and 15s., or 3s. per lb., free on rail; Fertile Queens, 4s. 6d.; Virgins, 3s. post free. ROBT. NESS, Certified Expert B.B.K.A., Sproxton Park Apiary, Helmsley, Yorks. M 1

BEES now ready. Splendid workers. From one single hive last season I extracted 216 lbs. Guaranteed healthy Natural Swarms, 3½ to 4 lbs., 12s. 6d. each. Packing and box free. A. TWINN, Apiary House, Ridgwell, Halstead, Essex.

"HONEY AND ITS USES," 1½d.; 3s. 6d. per 100. Also "MEAD, AND HOW TO MAKE IT," and "VINEGAR FROM HONEY," each 2½d. Small sample bottle of Honey Vinegar, 7½d. Rev. GERARD W. BANCKS, The Green, Dartford.

"AMERICAN ORNITHOLOGY" (4 vols.), 1831; "Baxter on Bees," 1834; Nutt's "Management of Bees," 1835; Taylor's "Bee-keepers' Manual," 1850; "Ants, Bees, and Wasps" (Lubbock), 1888. EXCHANGE small or strong Swarms. G. NEWMAN, 57, Coldharbour-lane, S.E.

Prepaid Advertisements *(Continued)*

TWO Nearly New HIVES for SALE, cash or Sections. DYD. HALE, Grayshott, S O., Hants.

FOR SALE, 26 strong STOCKS of BEES in frame hives; also 14 Spare Hives, with built-out combs. All the above with Lee's frames and W.B.C. ends. Also 40 crates (Abbott's) and 24 lifts, extractor, honey tins, &c., &c. All hives, &c., are inter-changeable and in perfect condition. No foul brood. Bid wanted for lot. Apply ARTHUR J. H. WOOD, Bellwood, Ripon.

HONEYCOMB DESIGNS.—Special Price for June only. 1896 or 1897. Complete, ready for your Bees, 6s. each, or 4s. Blocks only; 5s. any three letters; complete blocks for any three letters, 3s. Remit cash, and be ready. Write name and address plain and save time. Every instruction sent free with either blocks or complete. CHAS. COX, Brampton, Northampton. L 99

TO BEEKEEPERS THAT EXPECT SWARMS.—Having reduced my apiary of 120 stocks to 45, I have some Hives, &c., to spare. BLOW'S "DOUBLE-WALLED" COMBINATION HIVES, 15 Bar-Frames, worth 12s. 6d. each, price 11s.; BLOW'S "WELLS" HIVES, worth 42s. each, price 35s.; BLOW'S SUPERS for STRAW SKEPS, can be used as section crates, worth 5s., price 2s 9d.; BEE HOUSE, to hold 10 stocks, cost £10, price £6; A Nicely Fitted Old MICROSCOPE, by Adams, of London, cost, I think, £8, price 30s. Description forwarded on application. W. W. PRYOR, Breachwood Green, Welwyn, Herts. M 4

J. TREBBLE,

ROMANSLEIGH, SOUTH MOLTON

(The oldest Establishment in Devonshire for Bee-Appliances—25 years' experience) again offers his well known HIVES, FRAMES, &c. "Cottager's" Hive, with Floor-board forming stand, 10 Frames, "W.B.C." Ends, 1 Dummy, and Crate of 21 Sections, roof, all complete for 8s. 6d. All of my Hives can be supplied with my 1-inch Top-Bar to Frames and "W.B.C." Ends. For this Frame I have received several testimonials. Catalogue, 2 stamps (deduct off first order).

E. J. BURTT,

For HIVES made of carefully selected and seasoned wood.
For EXTRACTORS FOUNDATION, SECTIONS, SMOKERS, &c. &c

GLOUCESTER.

Is a very good Railway Centre for the West of England.

Illustrated Catalogue Free.

W. P. MEADOWS, SYSTON and LEICESTER,

FITTINGS OF EVERY KIND. Write for anything you want. We have again increased our Premises and Plant, and can supply promptly, in any quantity, "W.B.C." Ends, ordinary, ⅞, or ¾ wide, or ½ inch; ⊥ Bars, various kinds, Smoker or Feeder Tins Springs or Leather, Buttons, Butts, Rings, Springs, Hive Clips, Tools, &c.

I WILL QUOTE FOR ANYTHING REQUIRED.

SWARMING SEASON, 1896.

Why Bee-keepers use the Patent Hinge Plate SELF-HIVER!

Because it is the only one in the WORLD that has been PROVED and found to be a Success!!

Send post-card for Leaflet to G. W. HOLE, Patcham, Sussex.

CARBOLINE POMADE

(FIFTH SEASON).

Kills Bee-stings like magic.

CARBOLINE POMADE
Prevents the horrible smarting and burning inflammation.

CARBOLINE POMADE
Prevents getting stung, robbing, &c.

CARBOLINE POMADE
1s. per bottle, post free. T. HOLLIDAY, ASTBURY, CONGLETON.

Editorial, Notices, &c.

THE WORK OF BEE ASSOCIATIONS.

FROM THE COUNTY COUNCILS' POINT OF VIEW.

The increasing amount of interest taken in bee associations and their work —as manifested in various ways for some time past—by County Councils, is sufficiently encouraging for the present year, so far as it has gone, to make the according of further and more substantial help more than probable. In fact, it is beginning to be realised that bee-keeping as a rural pursuit is not only worthy of recognition, as one of the objects to which a share of the sums available for technical instruction may be legitimately applied, but that the claims of those who are engaged in the work of promoting what they believe to be a useful rural industry for its inclusion are just and proper. To this extent, then, we may safely "report progress," and in so reporting there are grounds for feeling both hopeful and thankful. But before any general recognition by County Councils of our full claim to help from the public funds may be expected, it will devolve upon all bee-keepers' associations to show very clearly that the objects aimed at are the good of the bee-keeping community at large, and not for either a few individuals or for any particular section of that community.

This line of thought naturally leads to some reflection upon the different methods of management—so far as the objects for which these associations came into existence—adopted by the various bee associations established throughout the kingdom. Well, regarding England and Wales, it is not too much to say that all such associations as have survived the period of reaction which always follows the "wearing off" of novelty from such things as bee-shows and manipulation in the bee-tent, are now doing far more useful work than was ever attempted in former years. In saying this, we in no way either intend or desire to minimise or disparage the labours, during the last twenty years, of those—among whom we are proud to claim a place—who were pioneers of the movement which culminated in the establishment of bee-keepers' associations.

Our reference merely applies to the opinions expressed by some of those who were prominent in the management of some good associations of former years, —which have since collapsed, or died of inanition—viz., that every one who cared to learn anything of bee-keeping had been taught all about it, and consequently the need for county associations had ceased to exist. The only justification for this view which had any foundation in fact was the idea that the work of a county association began and ended with the bee-tent manipulations and lectures, the holding of shows, and the visits to members by the county expert each spring and autumn. A very brief acquaintance with the present work of a county bee-keepers' association will, however, dispel such notions as these, and account for the fact, that in all associations worth classing among active and up-to-date ones, more useful work is now being done than was ever attempted, or even possible, in the past. The collapse of the few associations referred to above may, therefore, be regarded as a result of the reaction which usually follows the 'wearing off" of the novelty which made the first manipulations of live bees in public so attractive a feature of the work in years gone by.

In England, at least, an association which limits its "advantages to members" to the holding of a big show or two, at which some half-dozen of its most prominent officers carry off all the prizes, is a thing of the past. For the members generally who subscribe the funds it is—in vulgar parlance—"not good enough." And we agree with them. "Management" such as that would justify the question sometimes heard, "What benefit do I receive for my subscription?"

On the other hand, successful county associations of to-day have perforce to busy themselves with such new items of work as that of the travelling bee-van, and demonstrations of bee manipulations during the day and lectures illustrated by lantern slides at night. This is, in the fullest sense, carrying technical instruction in its most practical form—so far as bee-keeping—right on to the village green, or to the very door of the

cottager who cares to accept it gratis. Then there is the expert's visit in spring and autumn, and assistance at all times, by advice and aid when dealing with disease among bees where needed; together with valuable help to members in disposing of the honey-crop; the use of the county label as a guarantee of the genuineness of his honey; and, finally, the circulation of bee literature; all for the amount of his subscription. So that the complaint quoted above no longer holds good in any sense. In one instance, reported on page 126 last week, we read of a gentleman—a local hon. sec. to a well-known county association—who has started at his own residence a school of apiculture, where free lessons on bee-keeping in its most practical form, *i.e.*, among the bees, are given to all who care to attend and learn.

It cannot be expected that this most laudable example is capable of being imitated to any great extent, but it serves to show how generously some of those interested actively in the cause will give of their time, talents, and means for the benefit of others.

In Ireland, too, the Irish B.K.A.—though working more on the lines of an ordinary county association than on those of the B.B.K.A. — is rendering much assistance in various ways to its members. Indeed, it is open to question whether any British county association does more for its members than the I.B.K.A. They have also been aided in their work by the Congested Districts Board in assisting cottagers in rural districts to start bee-keeping under proper supervision.

It would have been gratifying to say the same of Scotland; but the curious fact remains that our friends across the border—so forward, as a rule, in all that tends to advancement — have somehow failed to grasp or to appreciate the salient points of what should constitute the work of a bee association. We make no attempt to explain or account for this; but it is none the less obvious. Nor is it denied by those among Scottish bee-men who have given any thought to the subject. Such a thing as a spring and autumn tour among members by a regularly appointed county expert is, we believe, unknown in Scotland. Lectures and manipulations in the bee-tent are also of rare occurrence, and when seen and heard at all it has been on the occasion of an unusually important show, when an expert from England was engaged for the work. So far as the Bee-van or the peripatetic lecturer, Scotland may be said to "know them not." Nor is any attempt made, so far as our knowledge goes, to assist members in finding a market for their honey. In plain truth—and we mean no offence in saying this—it seems to us that Bee associations, as managed in Scotland, concentrate almost the whole of their energies and devote the whole of their funds to getting up a big honey-show or two in each year, at which the main persons who benefit are the prize-winners,—not seldom found among the most prominent and active office-bearers of the Association. The excellence of their honey exhibitions are admitted by all who have had the pleasure of being present at some of their important displays—ourselves among the number. But, when critically examined, there is a dangerous analogy—on a large scale—between this sort of thing and the methods adopted by the typical local bee club of past years, where the subscriptions were canvassed for, book in hand, by the active spirits of the club, among the (non bee-keeping) gentlefolk of the locality, and scrupulously awarded to local men only. A mild protest, made on one occasion within our knowledge, against the exclusiveness of this proceeding, was met by the ingeniously forcible retort—"Who has a better right to the money than they who gathered it?"

We do not desire to point the moral of this fact (taken from real life) at all closely to the subject we are dealing with, but it does, without doubt, go to prove that the work of a properly-constituted bee-keepers' association should start from higher and broader ground than the narrow platform of an annual honey show as the main object of its labours.

A bold attempt was made a few years ago to free Scottish associations from the taint of any such failings as are implied and referred to above by an influential and very warm friend of the cause of bee-keeping in Scotland — Sir Thomas Gibson-Carmichael—who, in the spring

of 1891, established the Scottish Bee-keepers' Association much on the lines followed by the B.B.K.A.

In this effort the founder spared himself no personal labour in starting the association upon the broad public grounds which he no doubt felt had been previously lacking in similar organisations. For a time all went well, and the extraordinary amount of energy put into it by its founder gave rise to expectations of a central body for Scotland, established on a sound basis, and occupying a similar position to that of the B.B.K.A. in London.

We need not occupy space in speculating on the result; but, in the end, the hon. baronet to whom so much was due, and who—being himself an enthusiastic bee-keeper—had his heart in the thing, seems to have felt that the helpers whom he had managed to enlist in the work were relying too much on himself as founder of the new Association for "keeping it going." In fact, we hope to be excused for saying that the very liberal (too liberal, we think) financial support rendered by Sir Thomas Carmichael had somewhat demoralised them. The shows held were so many complete successes—as well they might be, considering the completeness with which they were carried out—but the Association received so many advantages from the prominence and liberality of its founder, that it failed from the business point; no doubt to the great disappointment of that gentleman. Anyway, having public duties of another kind occupying a large share of his time, Sir Thomas felt compelled to resign the active share he had previously taken in the work of the Association.

Our own view is conveyed in the remarks we have already expressed, viz., that too large a portion of its efforts were devoted to the shows, and too little attention given to the real objects for which associations are formed, that is, the teaching of bee-keeping for profit to all its members and enabling them to realise as large a share of such profit as may be by helping them to find a market for their produce.

This then is our point, and in venturing upon these observations, upon what we deem flaws in the methods of our Scotch friends in carrying out the work referred to, we rely on their good sense for freeing us of any but the very best motives towards themselves and the good of bee-keeping in Scotland. A move has already been made in several directions which indicate future good to Scottish bee-keeping as we regard it. The County Councils are recognising the claims of the pursuit, and one ardent worker of the most enlightened type, the Rev. Robt. McClelland, who has already been among the foremost in the late Scottish B.K.A., has been appointed to deliver lectures in several centres in the County of Ayr, as reported in our columns on May 21. Mr. McClelland also made an appeal in our pages offering to take part in resuscitating the S.B.K.A., and a response to this appeared in the following issue (2506, page 204) showing that interest in the matter is still alive. Another encouraging item, is the fact that Sir Thos. Gibson-Carmichael was induced to allow himself to be nominated for a seat on the Council of the B.B.K.A., and has been duly elected thereon. So that when restored health permits his attendance at the meetings in Jermyn-street—as we trust it will shortly—he will learn more of the principles which guide the parent body in England. This should and may lead to a consideration of the question, whether or not Scottish bee-keepers will consider it advantageous to the pursuit to allow of their County Associations being affiliated to the B.B.K.A. in the ordinary course. It is difficult to see any objection—on the part of our Scotch friends—to this; any bee associations they possess are as much British Bee-keepers' associations as are English and Welsh ones, and the presence of the late promoter of the S.B.K.A. on the Council of the "British" should held to establish this fact.

"BATH AND WEST" AGRICULTURAL SOCIETY.

SHOW AT ST. ALBANS.

This important fixture of the year has been duly celebrated at St. Albans during the past week, amid glorious surroundings. A large entry, Royal and civic patronage, coupled with the fine weather which marked the progress of the show from day to day, all contributing to the measure of success which has attended the exhibition. It is not our province to comment at all upon any department other

than that in which bee-keepers are more directly interested. The exhibits in the bee, hive, and honey section were located down the centre of a good-sized building, otherwise devoted to "Arts and Manufactures," and a continuous stream of visitors, manifested considerable interest in the numerous articles shown as best adapted for the successful management of the honey-bee, as well as the various specimens of produce exhibited in section and bottle. The attractive displays, new inventions, and instructive exhibits, meriting and receiving a fair share of attention. The total entries in the different classes numbered 83, though, owing to various causes, a good proportion of these were not staged, consequently the show benches, provided for a full display of exhibits, presented a somewhat bare appearance. In the class for hives and appliances, Mr. Greenhill staged a very complete collection of goods, suitable to the demands of the most fastidious of apiarians. Mr. T. B. Blow, who secured 2nd and 3rd prizes with his two collections, also had on his stand good and serviceable hives of his well-known type, together with a full line of miscellaneous articles required in the apiary.

The class for observatory hive stocked with bees and queen was not a large one, Mr. Greenhill again securing 1st prize and Mr. Blow 2nd.

There were eight entries for Class III.—"Best and most complete frame-hive for general use"; Messrs. Jas. Lee & Son taking 1st prize for a good and extremely cheap hive at the price (21s.). Messrs. Lanaway & Sons 2nd prize hive bears the makers' usual stamp of strength and soundness of construction. The 3rd prize was secured by Mr. Greenhill for a very good hive of its class.

Class IV.—*For Cottager's Hive* (price not to exceed 10s. 6d.) brought out seven competitors. The 1st prize going to Messrs. Lee & Son for a very complete and compact hive at the price. Mr. Greenhill and Mr. G. H. Varty secured 2nd and 3rd prizes respectively for good and useful specimens of hives for cottagers.

Coming to the honey classes it may be said that only one exhibit secured an award in the class for sections filled in the present year, Mr. H. W. Seymour taking 1st with six fairly sealed sections of even quality. Mr. J. H. New, of Watford, sent a nice lot of 1896 sections "not for competition" which would have won a prize if staged in competition.

The class for extracted honey of 1896 produced twelve entries. Mr. Seymour again taking 1st with a good sample, the other prizes going to very creditable exhibits for the early season.

In the classes for honey of any year the display was fairly good, both in sections and extracted honey, but in the latter class some signs of fermentation were observable.

Two exhibits were staged in the Trophy Class, the 1st prize one of Mr. W. C. Young, being a tastefully decorated stand containing about 1 cwt. of honey, and the 2nd a smaller display of section and extracted honey.

The miscellaneous classes embraced "New Inventions" and exhibits connected with bee-culture, and some exceedingly interesting displays were staged and were so attractive to visitors generally that we hope to see these classes well filled at future exhibitions.

The duties of judging were undertaken by Mr. T. W. Cowan, Rev. G. W. Bancks, Mr. J. M. Hooker, and Mr. E. D. Till; their awards being as under:—

Class 1.—*Collection of Hives and Appliances.*—1st, J. S. Greenhill; 2nd and 3rd, T. B. Blow.

Class 2.—*Observatory Hive.*—1st, J. S. Greenhill; 2nd, T. B. Blow.

Class 3.—*Best and most complete Frame Hive.* 1st, Jas. Lee & Son; 2nd, Thos. Lanaway & Sons; 3rd, J. S. Greenhill.

Class 4.—*Cottager's Hive.* (*Price not to exceed* 10*s.* 6*d.*)—1st, Jas. Lee & Son; 2nd, J. S. Greenhill; 3rd, G. H. Varty.

Class 5.—*Six* 1-*lb. Sections gathered during* 1896 (11 entries).—1st, H. W. Seymour; 2nd and 3rd, not awarded.

Class 6.—*Twelve* 1-*lb. Jars Extracted Honey of* 1896 (12 entries).—1st, H. W. Seymour; 2nd, R. Dymond; 3rd, D. S. Aston.

Class 7.—*Twelve* 1-*lb. Sections, any Year* (4 entries).—1st, W. Woodley; 2nd, H. Jonas; 3rd, T. B. Blow.

Class 8.—*Three Shallow Frames.*—1st, D. S. Aston.

Class 9.—*Twelve* 1-*lb. Jars, Honey of any Year* (13 entries).—1st, H. W. Seymour; 2nd, W. Woodley; 3rd, D. H. Durrant.

Class 10.—*Honey Trophy.*—1st, W. C. Young; 3rd, E. Drincqbier.

Class 11.—*Beeswax.*—1st, Thos. Walker, jun.; 2nd, Rev. R. T. Shea; 3rd, D. S. Aston.

Class 12.—*New Inventions.*—Certificate of Merit, Jas. Lee & Son, hive for sending out in the flat.

Class 13.—*Interesting Exhibits connected with Bee-Culture.*—Bronze medal to H. W. Seymour, for mead; bronze medal to W. C. Young, for collection of cakes, biscuits, &c.; bronze medal to Rev. G. W. Bancks, for mead and honey-vinegar; bronze medal to T. G. Worsfold, for bottled fruits preserved in honey, &c., ointments, honey creams, dubbin, &c.

An interesting incident occurred on Friday, in the unexpected visit to the Bee Department of the Prince and Princess of Wales and the royal party from Hatfield. It was matter for regret that the visit was unprepared for, or the chairman or some member of the Council of the B.B.K.A. would no doubt have attended. Mr. Greenhill was, however, at hand, and thus enabled to point out the queen in his observatory hive to the Princess when Her Royal Highness was attracted to the hive by the "live bees." Mr. Young, Secretary of the B.B.K.A., and Mr. R. Green, the expert, arrived later and gave the needed explana-

tions to the royal visitors, they were thanked by the Princess for the information afforded

In the Bee-tent lectures and demonstrations were given at short intervals, throngs of eager listeners crowding round on nearly every available occasion.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*" *(see 1st page of advertisements).*

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

[2518.] Here we are in leafy June, with cloudless skies and the thermometer registering something over summer heat. The bees are now revelling in an abundance of forage, and, owing to the great change in the temperature, honey has been brought in fast, and swarming has been started again in real earnest. The present outlook, however, is not very grand for a large harvest, owing to the continued drought. To my mind the present season is very like that of '93, and has been so ever since beginning of April. The herbage is beginning to flag, and the clovers are nearly dried up, so that after the sainfoin is cut we shall only have the limes to depend on. If, however, we could only get a good soaking rain, things would improve, and an extension of the honey harvest would be guaranteed at once.

The time for using super-clearers will soon be with us. I find, notwithstanding all that has been written on the subject, very little information is gained by some as to their use and management. I have written two or three letters recently to perfect strangers explaining how they are made. This takes time, and to-day I have had a gentleman (also a perfect stranger) to see my apiary and talk "bees" by the hour together. This may suit some folks, but when one is busy with about sixteen hours work planned out and a visitor simply kills four hours out of the sixteen, it makes one wish that the attractions of modern bee-keeping to some folks had worn off, so far as inducing consideration for busy men. I pleaded "notes" to journal to write and an engagement to attend to in the afternoon, but no, sir, like the old man of the mountain, he was not to be shaken off. I mention this as I have no doubt others, besides myself, who contribute to these pages have these unannounced hindrances cropping up occasionally.

The new "Weed" foundation is no doubt being tried in this country by a good many bee-keepers who, I hope, will report later on after fair trial. It certainly looks very nice, and if it works out as well as it looks I have no doubt we shall hail the new make with gratitude to the inventive genius of Mr. Weed. I trust it will enable the craft to turn out a section of honey with the mid-rib as thin as in the natural comb, though the article as at present put upon the market is, I think, quite good enough for the price I have been told was realised for sections last season, viz., 5s. per dozen. Unless we can command a better price than that, I for one shall certainly think that apiculture is, like agriculture, nearly played out. No doubt prices will be lower in the years to come, as the continued propaganda by all and sundry of the great profits to be derived from a few hives of bees will act as an incentive to the many to embark in the pursuit to share, as they will hope to do, in the good things called profits of bee-keeping. Bee-keepers will do well to foster a home market for their honey where possible, thereby securing the retail price for their produce. This, taking into account packing-cases and carriage per road and rail, will be some 25 per cent. better than wholesale prices, and these, I trust, will be equal, if not better than last year—but there goes the cry, "Another swarm!" *Au revoir.*—W. WOODLEY, *Beedon, Newbury, Berks.*

THE NEW "WEED" FOUNDATION.

[2519.] Referring to the above and Mr. S. J. Baldwin's letter thereon in this week's B.J., I read the report of B.K.A. meeting in your issue of March 26, and there found Mr. B. "not particularly impressed with the 'Weed' foundation!" This opinion, expressed publicly, too, and at a time when he knew nothing of the final process of manufacture at all! Now the meeting was also reported to me—at different dates—by four independent persons who were present, to the effect that Mr. Baldwin, in conversation at the same meeting, *did* talk down the "Weed" foundation, and "knew how it was made." When asked for details of manufacture, Mr. B., however, "would much rather not say." For why? I ask. It was well seen he knew little about it. Now Mr. B. was at the meeting, I was not; but I claim the right to ask him a straight question — Are these facts or untruths? If the latter, I apologise,

and regret having made use of them. But let me say at the same time that three of my informants are too circumspect and too honourable to indulge in "chaff," or deal in "banter" or "bluff" when writing to myself.

Regarding the advertisement, Mr. B. admits that "it certainly does not commend the 'Weed' foundation." But it no less certainly points to the advertiser as not being too scrupulous, even whilst gratefully "remembering the kind hospitality" of the manufacturers. He also deals a gratuitous thrust against the "Weed" foundation quoted him by the A. I. Root Company, of which foundation, at the time of framing his advertisement Mr. B. knew nothing, so far as its manufacture, and less concerning its worth in use. Yet he had a guarantee of good faith on Messrs. Root's part (in the "transactions for many years") that goods of unquestionable quality are the aim and purpose which actuate that firm, of whom, by the way, Mr. B. "would not say a disrespectful word." Still, according to his letter, on page 215, he is—as an advertiser—not outside respectful bearing when he used a wholesale price—quoted low, no doubt, to open up the market—as a sign-post whereon may be plainly read—Very questionable bees-wax!

Again, I ask, has not Mr. B. weeks ago admitted his advertisement, as quoted, to be unfair, and given a promise to withdraw the same, apologising because for various reasons it had been allowed to remain so long? But, forsooth, the advertisement still appears, and moreover, the advertiser's latest view of it is that he "don't see anything in it to which objection can be taken."

In conclusion, I am sorry to see one of our pioneers among appliance manufacturers taking the stand he does in this matter, for, without a doubt, in the "Weed" foundation, there may be something good coming—from outside Bromley *this time*—which is, and will always be, made from "the most suitable article for the bees."—J. H. Howard, *Holme, near Peterborough, May* 30.

THE "W.B.C." METAL END.

[2520.] I have used these "ends" for keeping the correct distance between frames from the time they were first introduced, and ever since manufactured by Mr. Meadows, preferring them to any distance spacers I had previously used or seen. Being in urgent need of a few of these ends recently for shallow frames, I did not write to Mr. Meadows, but obtained some from an appliance manufacturer in London. Instead, however, of getting "ends" similar to those I have previously used (which were stamped with the registered mark and the letters "W.B.C."), I found to my cost I had been supplied with a badly made and vile imitation of the original "W.B.C." end. Instead of going on to the frame easily, as they ought to do, it was with great difficulty that I got them sufficiently far on to the frames for the latter to drop into the hive at all. Considerable time was spent and my patience sorely tried endeavouring to get the ends home to their proper position, but the *rough edges* cut so into the wood that they stuck fast. Upon inquiry, I learnt that the maker had prevailed upon the appliance manufacturer to try a few, and being at the time out of the legitimate W.B C. ends made by Mr. Meadows, he bought a few, as I understand, at 3d. per gross less in price. I was glad to get his assurance that in future he will never again buy any but the genuine article, having got into trouble wherever those I complained of were supplied.

It is by an inferior article being distributed by pushing and sometimes unscrupulous people that a really good thing often gets into disuse. I send you a sample of these ends, which, as will be seen, bear no mark of any kind to distinguish them; the letters "W.B.C." being conspicuous by their absence, and I shall be obliged if you will give your opinion of them. — John M. Hooker, *Beaufort Gardens, Lewisham, June* 1.

[We hope to refer to the above in our next issue. Meantime, and so far as the "Ends" submitted as a sample of those mentioned in our correspondent's letter as sold at 3d. per gross below the usual wholesale price charged to dealers by the maker of the "W.B.C." end, we consider the "samples" shown to us dear at any price.—Eds.]

HERTFORDSHIRE BEE-KEEPERS' ASSOCIATION.

[2521.] By the courtesy of the stewards of the Bath and West Society, a further meeting of the Herts B.K.A. was held on Saturday, 30th inst., in the Pavilion, on the show ground at St. Albans. The resolution agreed to at the previous meeting was confirmed, and a committee of twelve members elected to undertake the work of the Association and the final revision of the proposed rules. It was decided to hold the first general meeting of the Association in July at Hatfield, on the date of the local flower show. About twenty-five to thirty names have already been received for membership. An appeal is now made to all bee-keepers in the county to send in their names with the first year's subscription (the minimum of which is 2s. 6d.) to the hon. secretary and treasurer (*pro tem.*), J. H. New, 14, *Essex-road, Watford.*

COMB FOUNDATION.

CUTTING TO PROPER SIZE.

[2522.] I have often wondered why foundation is sent out by makers in such inconvenient sizes. I ordered a quantity this season from a well-known maker, part of which was to be

"cut to fit" patent grooved sections. They were a very bad fit, and the remainder, which was sent in sheets about 11¾ by 4⅛, was simply exasperating, as each sheet would only cut two full sheets for sections, leaving a piece 3½ ins. wide, which, if one is using full sheets is nearly useless. From another firm I received super 13 by 7½. It is, of course, impossible to cut more than three full sheets from this; when another inch would allow of six full sheets being cut. Again, brood foundation is usually sent out just about ⅛ in. too long to fit a standard frame. Of course, one can easily cut off a strip, but besides trouble there is waste, and surely the makers could as easily send it out a more convenient size. I hope you won't think this grumble is altogether without "foundation," or "super"-fluous.—SAXON, *Castle Combe, June* 1, 1896.

THE "WEED" FOUNDATION.

[2523.] Mr. Holterman, in his letter (2502, p. 202) regarding experiments being carried on in Florida about the toughness of this foundation, says that "Mr. Poppleton desires to test the matter further." May I now say that the Messrs. Root write on the first of this month (May):—"Another report from Florida on the 'Weed' foundation confirms the first one made. The old-process foundation from same wax stretched five times as much in the hives as that from the new Weed-Process Machine."—WM. BOXWELL, *Patrickswell, co. Limerick.*

ANOTHER CASE OF "BALLING."

[2524.] In looking through a friend's hive—which I must point out was a very weak one but not apparently unhealthy—the bees immediately seemed to set upon the queen, killing her in spite of my efforts to prevent same by releasing, while other strong lots do not make any such attempts. — LAURENCE TAYLOR, *Derwent View Apiary, Hathersage, June* 1, 1896.

Echoes from the Hives.

Pandy, Llanbrynmair, May 31.—I hived my first swarm of '96 on the 18th inst. on eight frames with only starters of foundation, and on examining the hive nine days later (on the 27th), I was surprised to see the amount of work done in so short a time. There was four frames of capped brood and two with either eggs or unsealed brood in almost every cell.—A MONTGOMERYSHIRE BEE-KEEPER.

Deddington, Oxon, May 25.—I had a very strong swarm May 4, hived into the new "W.B.C." hive, and they have now filled the body-box with honey and brood. I put a box holding ten frames, standard size, above with foundation. The bees have not commenced in it yet. Will it get them up if I put one or two of the full frames into top part? [Probably it would.—EDS.] I had a second swarm May 12, which I lost. I was afraid they intended swarming again on Saturday and to-day, as they hovered in front of hive as though robbing was goingon.—IGNORAMUS.

Queries and Replies.

[1476.] I have two stocks which were fairly strong this spring, and while one has got stronger the other has become gradually weaker, and you may now watch the entrance for five minutes without seeing more than a dozen bees entering or departing, although there are a good many bees inside, and there is brood both sealed and unsealed. I have not seen one drone in the hive this year, although there are plenty in the other one. I thought possibly the hive might not be clean, so transferred them about a month ago to another, but that has not improved them. I examined the combs to-day, and find there are bunches of eggs in one cell, as many as from twelve to twenty in some, and in very few cases less than three or four, although there are plenty of empty cells and also partially-filled frames. Can you kindly tell me the cause of this? I lost a stock in the winter, which was strong in the autumn, and when examined did not contain a handful of dead bees, although plenty of food was in the hive.—JAS. WOODS.

REPLY.—The details given make it very difficult to diagnose your case. In the first place, the absence of drones all the season does away with the idea of the queen having lost her fecundity, as does the twenty eggs in one cell mentioned later on. On the other hand, it cannot be that the queen has died, and a fertile worker started laying, or drones would be seen in worker cells. It thus seems not improbable that the stock is not free from disease to account for the condition of things; yet this is not hinted at. We must ask you to carefully examine for dead brood in cells and write again.

WEATHER PROSPECTS IN JUNE.

Now that we have entered upon the month of June, we naturally look for warm weather both at day and night, and although the conditions are not always settled, we expect a large proportion of sunshine and a preponderance of fine days. Freedom from night frosts, in the shade, is limited entirely to our summer months, and for the first time since September we may reckon with perfect certainty that in the neighbourhood of London, at

all events, no frost will occur, since the Greenwich observations for the last fifty years fail to show a single instance of frost in the month of June. The latest date on which frost has been registered is May 24, in the year 1867. The mean temperature for the whole period is 60 deg., the mean of the highest day temperature being 71 deg., and the mean on all the lowest night readings 50 deg. There are on an average three or four days in June on which the temperature rises to 80 deg. or above, and during the last half-century there are four instances of the shade reading exceeding 90 deg. during the month. The absolutely highest temperature recorded in June is 94 deg. 5 min. in 1858. With a cloudless sky the average temperature is 10 deg. higher than with an overcast sky, but the average highest day temperature is 16 deg. warmer when the sky is clear. The east wind is the warmest, and the north wind the coolest. The north of Scotland is now about 8 deg. cooler than the inland districts in the south-east of England, and our southern coast stations are fully 3 deg. cooler than London. The average duration of sunshine at Greenwich is between five and six hours, and the maximum amount of sunshine in the British Isles occurs over the southern portion of England, the coast stations being the most favoured. In London the average rainfall for the month is 2·1 in. The heaviest rainfall occurs in the south of Ireland, and the least on the east coast of England. The aggregate rainfall since the commencement of the year is generally largely deficient, but June this year is none the more likely to be wet.—*Daily Graphic.*

WEATHER REPORT.

WESTBOURNE, MAY, 1896.

Rainfall, ·49 in.	Sunless Days, 1.
Heaviest fall, ·25 on 21st.	Above Average, 23·7 hours.
Rain fell on 3 days.	Mean Maximum, 61·4°.
Below average, 1·4 in.	Mean Minimum, 42·6°.
Maximum Temperature, 73° on 12th.	Mean Temperature, 52°.
Minimum Temperature, 31° on 2nd.	Above average, ·01°.
Minimum on Grass, 26° on 2nd.	Maximum Barometer, 30·51° on 25th.
Frosty Nights, 2.	Minimum Barometer, 29·94° on 22nd.
Sunshine, 275 hours.	
Brightest Day, 11th, 14·5 hours.	

L. B. BIRKETT.

TRADE CATALOGUES RECEIVED.

Chas. Redshaw, South Wigston, near Leicester.—This is again a very full list of well-made appliances for bee-keepers' use, containing a description of his well-known hives, and also of many other goods of which he makes a specialty.

W. P. Meadows, Syston and Leicester.—Mr. Meadows sends a new edition of his catalogue for 1896, and a very smartly got up list it is. What is most refreshing about it is the number of novelties and improvements on appliances already in use. Several excellent and entirely new things for the use of bee-keepers, gardeners, and amateur joiners are included.

Bee Shows to Come.

June 9 to 12.—At Eastbourne, in connection with the Royal Counties Agricultural Society's Show. Entries closed.

June 10 and 11.—Bees, hives, and honey, in connection with the Essex Agricultural Society's Show at Brentwood. Entries closed.

June 22 to 26.—Royal Agricultural Society at Leicester. Entries closed. All letters relating to Bee Department to be addressed to Edwin H. Young, Secretary B.B.K.A., 12, Hanover-square, London, W.

July 1 and 2.—At Ramsgate, in connection with East Kent Agricultural Society's Show. Entries close June 18. Schedules from Henry W. Brice, Hon. Sec. Kent B.K.A., The Apiary, Thornton Heath.

July 8.—At Redhill. The Surrey Bee-keepers' Association in connection with the Borough of Reigate Horticultural Society. Entries close June 30. Apply to C. E. Cuthell, Esq., Chapel Croft, Dorking.

July 14 and 15.—At Gainsboro', in connection with the Lincolnshire Agricultural Society. Bees, honey, and bee-appliances. For schedules, apply S. Upton, Secretary, St. Benedict's-square, Lincoln. Entries close June 26.

July 24 and 25.—Bristol, Somerset and South Glos. B.K.A. shows at Knowle. Schedules from Miss Dawe, Hon. Sec., Long Ashton, near Bristol.

July 29.—Henbury. Entries close July 17 and July 22. Schedules from Miss Dawe, Hon. Sec, Long Ashton, near Bristol.

August 7.—At Strathpeffer, N.B. Strathpeffer and District Horticultural and Bee-keeping Society. Ninth annual show, which includes bees, hives, and honey. Schedules of prizes from J. H. Bisset, Schoolhouse, Fodderty, Dingwall.

September 9 and 10.—At Derby. In connection with the annual show of the Derbyshire Agricultural Society. Fifteenth annual show of the D.B.K.A. as above. Liberal prizes for bees, hives, and honey. Six of the eighteen classes are open to all comers. Schedules for bee-section from F. Walker, Cattle Market, Derby.

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

IGNORAMUS (Deddington) *Swarms or Casts Returning.* After the lapse of a week or ten days there is no probability of the swarm or cast returning to the parent hive; the large increase of bees may mean that a stray swarm has joined itself to the hive in question. Use shallow frames for supering with excluder zinc below, and, other conditions being favourable, the bees will speedily take possession. Information as to hiving swarms, &c., is to be found in any guide-book.

G.G. (Honiton).—*Casts and Gloves.*—The two queen-cells left were no doubt the cause of the cast issuing. If bees are determined to swarm, they will raise fresh cells after earlier ones have been cut out. Experienced hands never wear gloves in bee-work.

A. P. LEARNER (Chelmsford).—*Ventilating Hives.*—Ventilation in warm weather undoubtedly tends to check swarming, and in such weather will have no detrimental effect on brood-rearing. Nor is there any necessity to stop ventilation in summer with bees in supers.

W. L. (Redhill).—*Queen thrown out.*—The queen sent is young; but, without more particulars, after examination as to queenlessness, we cannot say why the dead queen was thrown out.

M. O. SMYTH (Saintsfield).—There is comparatively little difficulty in naming many chemicals, the application of which is fatal to Bacillus Alvei; it is the spores of the disease which cause so much trouble. For details as to foul brood and treatment refer to the recent exhaustive article on the subject in our pages.

W. (Normandy, Guilford).—*F. B. Legislation.*—You need feel no alarm on the point raised as to experts' carelessness. This will be fully guarded against.

IGNORAMUS (Oxon).—*W. B. C. Ends.*—Refer to [2520, p. 226] regarding these.

E. J. FEWELLING (Shepton Mallet).—*Races of Bees.*—(1). Ligurians, not quite pure, but fairly well-marked. (2). Hybrid Carniolans. (3). Bees and queen, ordinary or native variety.

L. L. (Tiverton).—The queries you put cover so much ground that we cannot give space for full replies required. You should by all means possess yourself of a reliable guide-book and master its contents before attempting such operations.

S. E. GRIMSHAW.—We will be very pleased to afford you space for reply to letter referred to.

ENQUIRER (Boston).—*Disinfecting Hives.*—We should recommend placing reliance on the vapour of carbotic acid for disinfecting hives. Use as directed in *Guide Book.*

Special Prepaid Advertisements.

Situations, Publications, Bee Plants, &c. — Up to Twelve words, Sixpence; for every additional Three words or under, One Penny.

STOCKS, Nuclei, Swarms, and Queens.—Address, Rev. C. BREERETON, Pulborough, Sussex.

WANTED, SECOND SWARMS.—Price, &c., to W. RAND, Coombe Cliff, Croydon. M 19

GUARANTEED STRONG HEALTHY SWARMS, 10s. packed free. WOOD & TAYLOR, The Apiary, Hathersage, via Sheffield. M 18

BEES.—Healthy natural Swarms, a few to offer. —For price, apply, GILES, Cowsfield Apiary, Salisbury.

PURE IMPORTED ITALIAN QUEENS 7s. each. Cash with order. J. S. GREENHILL, 80, Graham-road, Wimbledon.

BEEKEEPERS should try PATERSON'S SCOTCH-MADE MEDAL HIVES and APPLIANCES. PATERSON, Pollokshields, Glasgow. L 11

TWENTIETH YEAR.—Pure Black Swarms, 5s., 10s. 6d.; extra, 15s. Nuclei, 2s. 6d., 5s. Queens, 3s. 6d., post free. ALSFORD, Expert, Blandford.

GOOD SWARMS, superior Bees, packed free, price 15s. JOHN WALTON, Honey Cott, Weston, Leamington. M 7

BEES.—Strong, healthy natural Swarms, 12s. 6d. each. Apply J. CRAGGS, Gilling, Richmond. M 6

YOUNG QUEENS, 3s. 6d., post free. Swarms, 10s. 6d. packed. Rev. JARVIS, Stonehouse, Gloucestershire.

EXCHANGE Orpington Cockerel, Hen and Pullet for 2nd Swarm or Queenless Bees. H. CRAWLEY, 250, Canbury Park-road, Kingston-on-Thames.

FOR SALE, 70 lbs. of white clover HONEY. 6d. lb. Buyer finds tins and pays carriage. G. ROBINS, Ickworth Park, Bury St. Edmunds, Suffolk. M 14

BORAGE.—100, 1s. 3d.; Giant Balsams, free for postage, 3d. TAYLOR, Old Hall Lane, Fallowfield, Manchester. M 17

FOUR STANDARD FRAME HIVES, bees working well in 21-lbs. section crates, £2 each. REV. A. BALDWIN, Todhills, Willington, Durham. M 20

WANTED, SWARM in EXCHANGE for Biscuit Box. Quite new. Cost 12s. 6d. 50, London-street, Greenwich. M 16

WANTED, SECTIONS, EXTRACTED HONEY, and WAX. Packages lent free to Bee-keepers and Associations. Prompt cash. State lowest price. Address Rev. W. HANDCOCK, Hampton Hill, Middlesex. M 15

STRONG NATURAL SWARMS, 3½ to 4 lbs., 12s. 6d. Never seen foul brood. Orpington eggs, Cook and Smith's strain, 2s. 6d. dozen. MIDDLEMASS, Stamford, Alnwick. L 91

LACE PAPER for GLAZING SECTIONS. 100 strips, 7d., 200, 1s. 2d., 300, 1s. 6d., 500, 2s. 3d., 1,000, 4s. Post free. Best quality. Neat patterns. W. WOODLEY, Beedon, Newbury.

NATURAL SWARMS. My well-known strain Pure Natives, 3½ lbs. to 4 lbs., 12s. 6d. each. Guaranteed healthy and safe arrival. Packing included. WHITING, Valley Apiary, Hundon Clare, Suffolk. M 2

Prepaid Advertisements *(Continued)*

A STANDARD-FRAME OBSERVATORY HIVE; also a Four-frame Extractor, been used; will exchange for a Swarm of Bees for each article. Swarm boxes sent if desired. F. WALKER, Cattle Market, Derby.

ENGLISH BEES, Swarms, 12s. 6d. and 15s., or 3s. per lb., free on rail; Fertile Queens, 4s. 6d.; Virgins, 3s. post free. ROBT. NESS, Certified Expert B.B.K.A., Sproxton Park Apiary, Helmsley, Yorks. M 1

BEES now ready. Splendid workers. From one single hive last season I extracted 216 lbs. Guaranteed healthy Natural Swarms, 3½ to 4 lbs., 12s. 6d. each. Packing and box free. A. TWINN, Apiary House, Ridgwell, Halstead, Essex.

WANTED. Empty Frame HIVES with supers for shallow frames. Association sizes. Good condition. Free from foul brood. Full particulars and price, H. HAWKINS, Rivelin Valley, Stannington, Sheffield. M 21

STRONG STOCK in good sound hive with sliding shutter in super for observation, containing 8 frames of comb and crown top super with nice lot of honey stored, 30s. Guaranteed never had foul brood in apiary. WOODS, Normandy, Guildford.

TWO Strong Healthy Natural SWARMS, each on 6 Standard Frames of drawn-out combs with brood and honey, £1 each. Healthy Swarm in box, about 3½ lbs., 12s. 6d. One strong Stock in Skep, not yet swarmed, 15s. 6d. All guaranteed healthy as certified by Surrey B.K.A. Expert, WOODS, Normandy, Guildford.

RELIABLE QUEENS of 1896, Natives and Hybrids (Ligurian and English). Prolific laying Queens, 5s. 6d.; Virgin Queens, 3s. Sent post free in my introducing cage. Safe arrival guaranteed. Orders filled in rotation. HENRY W. BRICE, The Apiary, Thornton Heath.

E. J. BURTT, *For HIVES made of carefully selected and seasoned wood. For EXTRACTORS FOUNDATION, SECTIONS, SMOKERS, &c. &c*

GLOUCESTER. Is a very good Railway Centre for the West of England.

Illustrated Catalogue Free.

W. P. MEADOWS, SYSTON, near Leicester,
WHOLESALE MANUFACTURER of BEE APPLIANCES
HIVES Cottagers, 8/6; "X L all," 15/6; Guinea, 21/-; Wells, 25/-
EXTRACTORS Windsor, 15/- Guinea, 21/-
THE RAYNOR, 30/- COWAN, 50/-
Many Novelties. Send for CAT-A-LOG.

SWARMING SEASON, 1896.
Why Bee-keepers use the Patent Hinge Plate SELF-HIVER!
Because it is the only one in the WORLD that has been PROVED and found to be a Success!!
Send post-card for Leaflet to G. W. HOLE, Patcham, Sussex.

CARBOLINE POMADE
(FIFTH SEASON).
Kills Bee-stings like magic.
CARBOLINE POMADE
Prevents the horrible smarting and burning inflammation.
CARBOLINE POMADE
Prevents getting stung, robbing, &c.
CARBOLINE POMADE
1s. per bottle, post free, T. HOLLIDAY, ASTBURY, CONGLETON.

THE CENTRAL SUPPLY STORES.
For Beemen in Lancashire, Cheshire, &c. &c.
50, Great Charlotte Street, LIVERPOOL:
and New Branch, 44, Fishergate, PRESTON.
GEORGE ROSE, "Seeds and Bees"
NEW ILLUSTRATED CATALOGUES, Gratis.
Chapman's Honey Plant Seed and directions, 6d. packet.
Seeds of 12 sorts of Bee Flowers and directions for 1s.
SPRING SLOW FEEDERS, each 1s. 3d. (postage extra).
THE VERY BEST.—THE NEW AMERICAN FOUNDATION.
SECTIONS, WITH SPLIT TOP, 2/6 100.
Headquarters for Great Britain. Buyers of big lots should write stating quantity wanted. I have no inland carriage to pay. "Add two and two together." This also applies to Honey Jars, Screw-cap, and Tie-over.
"Porter" Escapes, each 10d. (postage extra).
Queen Excluder, very low price for several sheets.
HONEY AND WAX EXTRACTORS.
NEW TRANSPARENT WINDOW BILL, very neat—
"Honey from our own Bees on Sale Within."
4d. each, post free.
Smokers, 3s. 6d. each; Veils, 1s. each; well made Hives complete, with Frames, &c. from 12s. Try my "Favourite Guinea" ("W.B.C.") Hive. Standard and Shallow Frames, 1s. 2d. dozen. FOUL BROOD.—Naphthol Beta, with directions, per packet, 1s.
GEORGE ROSE, 50, Gt. Charlotte-street, Liverpool.

GRIMSHAW'S APIFUGE.
PREVENTION IS BETTER THAN CURE.
APIFUGE PREVENTS STINGS.
Try a bottle, and prove it for yourselves.
Thousands of unsolicited Testimonials. Prices 1s. and 2s. per Bottle, post free.
TO BE HAD OF ALL APPLIANCE MAKERS AND
S. E. GRIMSHAW, Beeston Hill, Leeds.

WEED'S NEW PROCESS FOUNDATION.
(PROVISIONALLY PROTECTED.)
MADE from the very best strictly pure American Bees-wax. It is superior to that made by the old process, because it is BEAUTIFULLY TRANSPARENT, more pliable, and therefore more quickly worked by the Bees. Nor will it sag or stretch. Recent comparative tests, made from same wax, in Florida, show that the old process-dipped wax will sag or stretch in the Hive nearly five times as much as that made by the new "Weed" Process; therefore a lighter grade with a greater number of sheets in a pound may be used with safety. *Sold to Dealers only through*
WM. BOXWELL Patrickswell, Limerick, Ireland,
Who will quote prices and send free samples. W. B. is also Agent for
ROOT'S NO. 1 WHITE EXTRA-POLISHED SECTIONS
(the very best manufactured), and other Bee-keepers' Requisites. Every pound of the "Weed" New-Process Foundation offered for sale in Great Britain this season is

It is now on sale to the public by:— J. H. Howard, Holme, Peterboro'; G. Rose, 50, Great Charlotte-st., Liverpool; Jas. Lee & Son, 5, Holborn-place, High Holborn, London, W.C.; and W. P. Meadows, Syston, Leicester.

Editorial, Notices, &c.

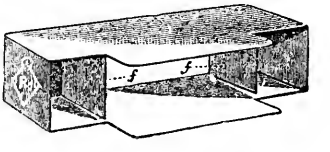
USEFUL HINTS.

WEATHER.—Up to a week or so from date of writing, bee-keepers and farmers alike were most anxiously hoping for rain, which has since come plentifully, and given the much-needed growth to all vegetation. The bee-keeper, however, is now beginning to consider that rather more moisture is being vouchsafed to us than is good for *his* purpose. It is, to say the least, disappointing to see a whole apiary bearing very much the appearance as if a general "strike" had been resolved upon by the bees. And this, too, with hives (as we have seen it) located right in the midst of a "wealth of bloom" no the acres of sainfoin by which the hives are surrounded. Bearing in mind the fact that seven or eight days hence will probably see the mowing-machine at work on that same "bloom," the bee-keeper may well be excused for wishing the rain "off," when every idle day caused by rain or clouds means the loss to him of scores of pounds of honey.

GIVING SURPLUS-ROOM.—So fast has honey been coming in of late, whenever real working days have given the bees a chance, that every effort should be made to utilise time while the ingathering lasts. Do not, however, give too much surplus-room at a time even to strong colonies; to do so only retards work. Keep every surplus-chamber as warm as possible, and only when the bees have made good progress in drawing out the foundation into comb, and have partly filled the cells with honey, should further surplus-room be added. This by no means implies allowing insufficient accommodation for both active work and rapid storing; it is only taking precautions against giving additional room until bees are strong enough, and the weather is warm enough to ensure of the extra room being taken possession of in force and at once, because in a half-empty super—with frames of foundation worked at by a small body of bees—work makes slow progress only.

The comparative advantage of adding surplus chambers above or below those already on hives will always be regarded differently by bee-keepers, and, no doubt, something may be said on both sides. Personally, we adapt our method to the circumstances of each case at the time. But after setting on a first box of shallow-frames above brood-nests in the early season, we nearly always allow that box to remain in its original position next the excluder-zinc which separates it from the brood-nest. We do this for several reasons. It forms a storehouse for the earliest honey—often very medium in quality—and allows the bees to use this up for daily wants; it allows this box to take all the "travel-stain" and discolouration usually found on combs close above brood-nests, and so keeps combs in the overhead boxes cleaner and brighter.

THE "W. B. C." METAL END.—Some nine years ago it was the privilege of the writer of this paragraph to bring to the notice of bee-keepers the little appliance now known as the "W. B. C." end. This was done in the *Bee-Keepers' Record* for February, 1887, the writer being then, as now, Editor of that paper. The sole manufacture of the article was handed over to Mr. W. P. Meadows, who had—during the preliminary stages of its development—spared neither labour nor expense in order to secure the perfect accuracy which I deemed essential to the usefulness of the invention. Since



that time the "W. B. C."—the original illustration of which is here reproduced—end has so completely fulfilled its mission and my expectations as to almost entirely supplant the heavy cast-metal ends formerly used, and its adoption as a distance spacer for frames has become general.

Now, however, the protection afforded to Mr. Meadows—who registered the appliance in the usual way—has expired by effluxion of time; and I have recently learned that others are manufacturing what purports to be the "W. B. C." end. Whether one or a dozen firms are making it I neither know nor care, but, while free now (as from the first) from all pecuniary interest in its manufacture, my paternal interest in the appliance is undiminished. Having, therefore, no desire to see its mission fail because of substi-

tutes for the original article being put on the market—so badly made as to be entirely subversive of the purpose for which it was designed—I must enter my protest. The "ends" submitted to me are exactly similar in form, size, and material to the original, and had they been equal in other respects no word of complaint would have come from me; but, as shown, they were so bad as to call forth this prompt repudiation of them, and I am perforce constrained to say they will give no satisfaction to users. They had no mark or letters of any kind upon them, otherwise they would to the inexperienced be undistinguishable from the original, which has impressed on it the letters "W. B. C." and the registration mark.

I offer no apology for stepping from behind the editorial screen to offer this personal protest, which is made entirely in the interests of bee-keepers and of the "metal end" as designed by—W. BROUGHTON CARR.

(*Remainder of Hints next Week.*)

YORKS. AGRICULTURAL SOCIETY.

BEE AND HONEY SHOW AT YORK.

We are requested to remind intending exhibitors that the general entry for the above society's show at York closes on Saturday next, the 13th inst.

LANCASHIRE AND CHESHIRE B.K.A.

STALYBRIDGE BRANCH.

Since the inauguration of this branch on June 10 last year by the indefatigable exertion of the local hon. sec., Mr. James Bottomley, jun., it has become a centre of bee culture which promises to be one of the strongest districts in the two counties. Starting with a small nucleus, it now numbers a score of earnest workers, devoted not only to the production of honey, but to the higher stages of the craft, and scientific investigation of the habits and instincts of the bee itself. Meetings have been frequently held the whole year through, and no better guides could possibly be found than Messrs. J. and A. Bottomley.

During the winter months, for reasons of health, the local hon. sec. had to seek the milder climate of the south, but his society found a watchful foster-nurse in his uncle, Mr. Abel Bottomley, a gentleman who has attained some distinction in scientific pursuits allied to agriculture. We hope that Mr. James Bottomley will have found that desired for improvement in health, and will long continue to lead his fellow members in this district.

HONEY IMPORTS.

The total value of honey imported into the United Kingdom during the month of May, 1896, was £3,027.—*From a return furnished to the* BRITISH BEE JOURNAL *by the Statistical Office, H.M. Customs, June* 6, 1896.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

*Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "*The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to "*THE MANAGER, 'British Bee Journal' *Office,* 17, *King William-street, Strand, London, W.C." (see 1st page of advertisements).*

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

AN ABNORMAL CASE OF FOUL BROOD.

[2525.] As a contribution towards the sum of popular knowledge about "foul brood" and its behaviour, a statement of the following case that has lately come under my notice in our county, and that I take to be abnormal, may be of value.

Four years ago a stock of bees in a bar-frame hive was standing at Chislehurst, in Kent, its owner being then a member of the Kent County Association. At that time this stock was examined, among others, by the county expert, who announced to the owner that he found signs of foul brood in the early stages. Remedies were advised and applied, and one or more of the frames were destroyed. Since then the bees have been moved with their owner's apiary into this county, but they have never since been examined, and although apparently keeping up their strength—so far as outward appearances have gone—they have not thrown a swarm until this year. Rather more than three weeks ago an unusually good swarm came off, and upon my visit to the apiary last week (the swarm having been off 18 days) I opened the hive to find it in fine condition as regards the number of bees remaining and with a young queen on the combs, not having yet begun to breed. Of the ten frames in the hive four combs were almost entirely given up to disease, most of it of old standing; the cappings being sunk and irregularly perforated, and the dried-up matter being within. In at least one of these frames there could have been no room for recent breeding, and I doubt from appearances

whether any breeding at all had recently taken place on these four "rotten" combs, which were by themselves, at the back of the hive. The six frames in the front of the hive had evidently been alone used for breeding, and contained the small amount of capped brood remaining from the departed queen's family. But after a careful search I found only a very few, probably not more than a dozen, cells where the larvæ had recently died of disease, and not many more capped cells at wide intervals containing diseased brood.

Except for one piece of evidence, it looked as if the stock had successfully isolated the disease in the back part of the hive, and had of set purpose refrained from using the combs where disease had at some time or another been rampant. But, on the other hand, upon the bottom of one of the worst of the diseased combs a queen-cell had been formed, from which a queen had recently been successfully hatched. Under the conditions I describe above I ask, (1) Would not the issue of a good swarm be quite unusual, especially as it left the parent stock so well peopled? (2) The present remedy is evident, viz., the entire destruction of the parent stock; but what of the swarm? Should that have a chance in a clean hive? I think so, for the sake of experiment, if for no other reason.—J. W. JACOMB HOOD, *Surbiton, Surrey.*

[So far as the direct questions asked by our correspondent, we may reply to the first by observing that among the other things difficult to understand, is the fact of "an unusually good swarm" issuing and leaving "the parent stock well peopled" from a hive in which only six frames of comb were available for breeding and storage. The case, however, is interesting as showing how mysterious are the workings of these germ diseases incontestably proved to be so terribly infectious. To further illustrate this point we may quote a still more curious case within our own knowledge, in which some years ago a stock of bees badly affected with foul brood was so far advanced on the downward journey as to have yielded no surplus for a couple of years, growing weaker as time went by. But a good honey season supervened, and the stock probably requeened itself. Anyway, it did well, yielded surplus, and finally, when examined a year later, was found quite free from disease, without having been subjected to any treatment at all! These exceptional cases, however, prove little or nothing, so far as adding one iota to the value of a let-alone system when dealing with zymotic diseases. Moreover, in view of known facts, it would be little less than madness to relax either present precautions or future efforts to combat the disease. These abnormal cases of cure, as we have said, prove nothing in favour of negligence, and we beg readers to take special note of this. As well might it be said that sanitary regulations or precautions are of no value in the prevention of fevers because the men constantly employed about foul drains, or persons engaged in nursing the sick, so often enjoy immunity from disease, while our most carefully guarded princes fall victims.

Finally, and in reply to the query regarding the swarm, there is no reason why the bees should not do well in their new home and on new combs.—EDS.]

BEE NOTES FROM SUSSEX.

A PROMISING OUTLOOK FOR THE HARVEST.

[2526.] On June 1, after a fortnight's absence, I noticed that in two of my hives the bees seemed to hang out and threaten swarming. So I opened No. 1, and found the topmost of three tiered-up racks of sections sealed over. On removing this, the underlying rack was seen to be in the same condition. When this was lifted the third, next to the brood-chamber, was also completed, and was likewise taken away. In sum total, I was enabled to remove three racks of finished sections, no one of which weighed less than 1 lb., most of them 18 oz., and some 19 oz., or even 19½ oz. Out of the sixty-three sections twenty-one were replaced, to have some slight defect, or "weeping," mostly due to the removal of brace combs, which are my great trouble, made good; the remaining forty-two were in perfect order.

The next day, June 2, I had the same experience with hive No. 8. Here, out of sixty-three sections, only fourteen needed to be replaced for repairs. None weighed less than 17 oz., but ranged again up to 19½ oz., averaging full 18 oz.

Thus, out of these two hives, I have already secured ninety-one finished sections, weighing something like 100 lbs. I have filled the vacant places with two racks of sections with full foundation, placing another with the sections to be finished off on top, in either case. During my absence one hive swarmed; but the queen was cleverly secured, and the bees returned to the hive, where they are working with a will.

In all my ten hives except two the bees are working up to the topmost of three lifts of sections or shallow frames, and are sealing over fast.

I have had an awning fitted up over my hives, which I can easily adjust or remove at pleasure. I hope by this means and by giving plenty of room inside the hives to check the tendency to swarming. I find also that any overheating of the hives renders the bees very ill-tempered and troublesome.

I cannot hear that any one in this vicinity has yet had any similar "take." I attribute it mainly to having fed up the bees well all the winter, so that they have had abundance of stores to keep them in heart all the spring; and also to having put on three tiers of lifts all round very early this year, so that comb-building began betimes.

In this neighbourhood we have had none of

the cold winds of which some of your correspondents complain so much. The honey-flow has been steady and constant ever since the beginning of May, in spite of the long continued drought, now of many weeks' standing. For agriculture, the effects are becoming disastrous, but it has suited my bees, at any rate, remarkably well; and if the fine weather continues I can hardly avoid having a magnificent honey harvest, as the white clover is only just coming on, and on that we mainly depend—to say nothing of the second later crop.

I have induced two neighbours to take up bee-keeping in bar-frame hives on modern principles, and have fairly started one, while I hope to transfer the bees of the other to a proper hive early next week. I find the great practical difficulties in the way of persuading others to attempt scientific bee-keeping to be —1, the initial expense, which is certainly very heavy; 2, the ladies, who firmly object to be stung while walking in their gardens by their husbands' or brothers' bees. One lady has been so discouraged by stings that she has actually disposed of all her hives. I myself have just had an eye closed up for three days by a chance sting! So one sympathises a little.—W. R. N., *Sussex*, *June* 6.

REMEDY FOR BEES' STINGS.

[2527.] Replying to a paragraph on the above subject by a correspondent who advocates the external application of "Hudson's Dry Soap" (2515, p. 216) I hope I (as proprietor of perhaps the only professed perfect preventive against bees' stings) may be permitted to quote once more the antiquated adage that "Prevention is better than cure."

Any one who has read Mr. Cowan's book on "The Honey Bee," knows that the hypodermic puncture made by the sting of the bee is microscopically minute and also that upon the withdrawal of the sting by the bee-keeper, the skins (plural) always at great tension, instantly close the minute opening perfectly, thus rendering the chemical action of any substance almost if not entirely inert, except perhaps as an allayant to inflammation caused by the action of the poison now entered into the whole circulatory system, and for this purpose the alkali in "dry soap" is about as useful as a piece of dry manure would be if rubbed over a puncture in the bark of a tree when one wishes to get at the sap circulation. An alkaline drink, or a stimulating one—or both—stands to reason; but prevention must be better than either.—S. E. GRIMSHAW, *Leeds*, *June* 4.

BEE NOTES.

DRIVING BEES.—PEAT AS FUEL FOR SMOKER.

[2528.] In "Open Skep Driving" there is a matter which I have not seen mentioned in Guide Books, and which I find much facilitates the operation, *i.e.*, that the point of contact between the two skeps should be made at the *entrance hole* of the skep to be driven. My experience only dates from last year, when I drove some twenty skeps for transferring to frame hives, but every time I tried this method it only seemed half the trouble to get the bees up. They naturally make for the place they have been accustomed to use as a point of ingress and egress. Even when the combs have been built transversely to it, driving was hastened.

Another thing I would invite attention to is this:—Living in part of the country where peat is used in place of wood for fuel, I have been utilising it for the smoker, and find it an excellent material. Peat has well-known antiseptic qualities, and as this and "wood smoke" are now beginning to be recognised as amongst the best of natural disinfectants, it will commend itself to bee-keepers in these days of "foul brood." If properly filled (I take small knobs half lighted from the fire), the smoker will keep going for a couple of hours without attention. The cost is nil. I intend trying it for winter packing as allowing of ventilation and having no tendency to harbour vermin of any kind.—R. S., *Devon*.

BEE-KEEPING IN LANCASHIRE.

[2529.] I have been a subscriber to the BEE JOURNAL and *Record* for many years; indeed, I have the *Record* from the first number; but I have never troubled you with a line because of feeling that I had nothing to say, all my bee-keeping having been learnt from the two periodicals mentioned. I have now twenty hives, situated on the confines of the town, from which I am able to get a surplus year by year averaging 50 lb. per hive. I have formed besides a small apiary in the country, three miles out of town, to show the old skeppists how to keep bees on modern methods. I have converted several, and made many start who had never thought about it before seeing what I was doing.

There was a time, I believe, when a bee-stand could be seen on every farm, and I hope before long to see this state of things again, but under modern conditions.

Bees are very strong here, but we are only just beginning to super, for the white clover is not yet out with us. After the fine showers of the last few days I anticipate grand results. I am extremely pleased with the results hitherto attained from my "Wells" hives, and am adding each year to the number I work on this system. I send you a copy of our local magazine, *The Bee*, in which the article on "Bee-keeping" will give you an idea of what is being done here. I will, with your permission, send you a full report at the end of the season.

Foul brood appeared two years ago in a hive here, not in my own apiary, and the owner allowed it to be destroyed.

This is the only case I have met with, and how it can have arisen in a well-established stock that had gained a handsome surplus the year before, I cannot imagine.

I may say that the owner about Christmas time closed the hive (a "W.B.C.") for a few hours to prevent the bees coming out in the snow, and the consequence was that the bees suffered very much from dysentery, a state of things which, I think, predisposes to foul brood.

This one experience has made me an earnest supporter of foul brood legislation.—J. STOTT, *Head-Master, Leigh Technical School, June 7*, 1896.

FLOWERS AND LONDON TOILERS.

AN APPEAL.

[2530.] It has occurred to me that a quiet work which is being done to brighten the lives of our London toilers "behind the scenes" might be of interest to your readers. I refer to the Flower Mission to West End workrooms. Once a week a few ladies meet together to make up into tasteful little bunches the flowers sent up by country friends; texts are also attached to the bunches, and they are then taken to the different workrooms belonging to the shops, to which an entrance is kindly permitted by the managers, in some of the principal West End streets. The flowers and their bearers are eagerly welcomed, and hearts are cheered by the little messages and loving words which are given with the flowers. One can understand that these workers, whose every-day lives are so monotonous and unvaried, would be gladdened by the flowers, few of them ever having the opportunities to see them growing in all their beauty.

Perhaps some of your readers who have more than enough in their gardens to supply the needs of their bees might like to send a few flowers to cheer the busy workers in these London hives; if so, would they kindly address "Flower Mission Secretary," Morley Hall, 316, Regent-street, London, W., and send so as to arrive on Wednesday mornings? Weekly or occasional gifts would be gratefully acknowledged, and hampers returned if addressed label is enclosed.—E. C. C.

[An appeal like the above will surely commend itself to all readers having gardens, and flowers enough and to spare. We trust it will meet with a liberal response.—EDS.]

TO BEE-APPLIANCE MAKERS.

A QUERY.

[2531.] Could you or one or other of your readers inform me and others of those who take your paper of a manufacturer of bee-appliances who would and does reply to orders at all events within a week from receiving them? In my case, all my appliances stored in the house last winter were burnt with the house, and I had to get little and great things again as time required. I wrote to two of the best-known houses telling them of my difficulty, and asking for immediate sending off of the things ordered, but neither replied within the fortnight. I am wanting extractor and other things now, and should be glad to know where I can get them at once.—C. F. M.

STRAY BEES IN NOTTINGHAM.

[2532.] On the 2nd inst. I was fetched from business to take a swarm of bees which had settled on some rails in the main part of London-road, Nottingham. When I got there a policeman had been trying to burn the poor bees, and to destroy them. He had killed most of the swarm, but fortunately the queen, with some of the bees, escaped, and settled nearly at the same place. The people were quite astonished at seeing them taken.—A CONSTANT READER.

WORKING FOR COMB HONEY.

PUTTING ON SECTIONS.

If we have been successful in working our bees for brood, so as to obtain a multitude of bees in time for the honey harvest, as I have advised should be done, if we would secure the best results from them, I often repeat this in the columns of the different bee-papers, to emphasise the great importance of this matter. By the time this appears before the readers of the *American Bee Journal*, spring will have given place to summer, and we are ready for the next step in working for comb honey. This will be putting on the section-boxes, or a part of them, for I contend that it is poor policy to give any colony (unless in the case of two prime swarms being hived together) too much surplus room at the start; such tends to discourage them, as they do not as yet have a sufficient amount of bees to take possession of a large amount of room.

I generally begin by giving surplus room amounting to from twenty-five to thirty pounds at the start, and as much more room when the bees have fully taken possession of that first given, and finally the full capacity of the hive (about ninety pounds), when the force of bees has so increased as to need it. However, as a rule, the swarming season arrives before all the sections are put on, when no more are added until the old colony has a laying queen.

In managing bees, the apiarist should always have an eye on the future as regards his honey harvest, until the harvest arrives, and then bend his every energy for the time which is present. For instance, my main honey harvest comes from bass-wood, which blooms from the 5th to the 25th of July, so all my operations previous to this time must be in reference to this harvest, or my efforts will result in failure. The time of the bees swarming also has a very important bearing on what I secure as cash

out of the apiary. If they swarm too early they defeat my plans, and if too late it is nearly as bad. The thing is to have them all swarm at the right time, which is brought about as nearly as may be, by keeping back the strongest and building up the weakest. This is done by drawing bees and brood from the strong and giving to those which are weaker, until all are brought to a uniform strength at the desired time of swarming.

"But," says one, "when is the proper time for increase?" To which I reply, about fifteen to twenty days before the main honey harvest. Why? Because this gives time for the young queens in the old colonies to become fertilised, and not enough time to the new swarm to get so strong as to desire to swarm again. Remember, I am talking exclusively of producing section honey, for the production of extracted honey requires a somewhat different mode of procedure, in my opinion, and I have extracted as high as 566 pounds from a single colony in one season. Nothing can detract more from our crop of comb honey than to have our bees contract the swarming fever during the honey harvest, unless it is the having them so weak at the time that they are of little or no value.

About the 1st of June, one year, I was accosted by a neighbour, saying, "Have your bees swarmed yet?" "No," I said, "nor do I expect them to generally for the next two or three weeks." "Well," said he, "I guess you won't get much from them, for Mr. S. is having lots of swarms." "All right," said I, "I shall be glad to have Mr. S. secure a good crop of honey."

Well, the result was, during the height of the honey harvest Mr. S. was having lots of swarms, which he was putting back, cutting out queen-cells, &c., in the vain hope to get them to go to work, while only now and then a swarm was issuing in my apiary, with the sections being filled as if by magic.

I have often said the securing of the bees in the right time for the honey harvest counts more toward cash and fun in the apiary than anything else, which is true, but next to this is the managing of those bees, so they will be only bent on storing honey during the honey harvest; for the lack of either gives the apiarist only small return for his labour among the bees.

After doing all in my power to secure all swarms between the 15th to the 25th of June, if the season is an early one, or from the 25th of June to the 4th of July, should it be late, I frequently get a few from five to eight days earlier, and also a few that number of days later, but the great bulk come about as I have given.

The date of swarming is put on each hive, thus: "N. S. 6—21" being put on the swarm, and "Sw'd, 6—21" on the old hive, if that is the date. On the evening of the eighth day I listen for a moment or two at the side of the old hive, and if swarming has been done "according to rule," I hear the young queen piping, when I know a young queen has hatched, and an after-swarm will be the result if it is not stopped. If no piping is heard, I do not listen again until the evening of the thirteenth day, for the next rule is that the colony swarmed upon an egg or small larva being in the queen-cell, which allows the queen to hatch from the twelfth to the sixteenth day after swarming. If no piping is heard by the evening of the 17th day, no swarm need be expected. When it is heard, which will be in nine cases out of ten, on the eighth day, I go early in the morning and take every frame out of the hive, shaking the bees off of each (in front) as I take them out and return them again, so I shall be sure and not miss a queen-cell, but cut all off, for we know that a queen has hatched. This is a sure plan, while I have found by experience that none of the other plans given are sure of the prevention of after-swarms.

The colony is now "boxed" to its full capacity, and if the queen gets to laying all right it will produce a larger amount of comb honey than the swarm will. In twenty-one days from the time the swarm is hived, young bees will begin to hatch so as to reinforce that colony, so on the twenty-third to the twenty-fifth day after hiving, I give the full capacity of surplus room to this also, if I think it requires it, which tends to keep them from having a desire to swarm again.

In this way the very best results are secured, the same being what I have practised successfully for the past twenty-five years.—G. M. DOOLITTLE, *in American B. J.*

Echoes from the Hives.

Barry Docks, June 2.—Honey coming in very fast in this district. My bees have been up in the sections this fortnight past, and I have already removed some finished sections as long ago as May 2, and am expecting to take a good few off the latter part this week.—J. DAWE.

Norton, Stockton-on-Tees, June 8.—Everything here is looking grand just now, so far as the bees. I shall have sections ready for taking off in a few days if present weather holds out. More swarms came off in May in this district than has been known for many years past. I caught a stray swarm myself on May 31. I am also glad to say we are, so far as I know, free from foul brood. But I am keeping an "open eye" for it, and if it makes its appearance among my bees, I shall give it short notice to quit by burning. I also manage the bees belonging to a gentleman near here, and they are all doing well.—GEORGE NICHOLSON.

Queries and Replies.

[1477.]—*Swarming Vagaries.*—Will you kindly give me your opinion on the following occurrence? I had a good swarm on May 30, which I hived on nine frames, partly filled with foundation. The hive was left, close to where the swarm clustered, until evening, and then removed to a permanent position, about 200 yards away. Next day, about noon, I observed a small cluster of bees in the same spot where the first swarm had settled the previous day. I put this little swarm into another hive, thinking they were only a few bees from first swarm, which would soon disperse, but on examination the following morning found swarm No. 1 all right and No. 2 still clustered on the frames in the second hive, and evidently intending to stay there. So they will, I suppose, have a queen? Is it a general occurrence for two queens to come off with one swarm, or will it be a small swarm from another hive which I have? Drones have been flying from both hives for some time. Shall be glad to have your opinion on the above through your instructive journal, of which I am a constant reader.—"NOVICE," *Tarm-on-Tees, June* 2.

REPLY.—It is not stated whether the swarm first referred to is even supposed by our correspondent to be a top swarm. Any way, we take it to be a second swarm, and the "little swarm" found on the following day may be either a third swarm or "cast," which issued from the parent hive. These small casts are not uncommon, and frequently come off unnoticed at all sorts of hours following the issue of a strong second swarm. On the other hand, two young queens may have been with the swarm of May 30, and a few of the bees with queen left unnoticed. Then the fact of moving the swarm so far as 200 yards from the spot on which it had worked for several hours after hiving would cause some bees to return to the spot whereon the hive was first placed, and, missing it, might join the small swarm found clustered as stated. Either of these explanations would account for what is stated above, as would our correspondent's own suggestion as to the swarm coming "from another hive." It need hardly be said that the small swarm is useless unless bees are added. Only one queen accompanies a top or first swarm.

[1478]. *Experiences with a "Wells" Hive.*—I enclose herewith pieces of comb cut from a frame which I have to-day taken from one side of a "Wells" hive. I have never seen foul brood, but am suspicious of its presence in this case, and shall be glad if you will kindly give me your opinion in next issue. You will also, no doubt, see signs of the presence of a fertile worker. However, I append my notes, and presume to ask your advice as to treatment. The "Wells" hive referred to was made up last September of two stocks headed by queens now in third summer, and wintered on eight frames each. The bees came out fairly strong in March, and on May 2 there were eggs and brood in each end. No. 1 End.—May 2. Bees strong and doing well. May 7. Swarmed. May 16. Several empty queen-cells, but no young brood or eggs present. May 23. Several fresh queen-cells started. Gave a capped queen-cell from another hive. May 25. Cell torn open and queen cast out; examined and saw queen. May 30. Several young drone-brood in worker-cells dotted about. No. 2 End.—May 2. Bees rather weak. May 8. A few dead bees, and queen (of old appearance) cast out. May 9. Eggs and brood, but no signs of queen-cell. May 16. Examined and saw queen. I have to-day examined No. 1, and send you pieces of comb taken from it. On other parts there were a lot of eggs, many of which were placed on the side of the cell. Other cells contained three or four. I may say that the entrances to the hive both face the same way, the alighting-board being divided in the centre. I should also like to ask whether a young queen mates before she leaves with the cast, and also whether the remaining queen leaves the cell before the cast comes off.—INQUIRER, *Staffs., June* 6.

REPLY.—Comb reached us in such smashed-up condition as to make it impossible for us to pronounce any opinion on it, except to say we cannot see any indication of foul brood. Its condition, however, prevents proper examination, as it does for signs of a fertile worker being in the hive. The details given in "Notes" referred to also present some points not easy to make out; but, so far as we understand the case, both compartments now have a young queen, and consequently no special treatment is needed, beyond deprecating too frequent examination of the combs as being dangerous in double-queened hives. Replying to our correspondent's final query, we may say a young queen mates after leaving the hive with a swarm, not before.

[1479]. *Worker-Bee in Sealed Queen-Cell.* 1. How do you account for a worker-bee being found sealed up in a queen-cell, from which a young queen had recently hatched out? As has happened twice this year, come under my personal notice. 2. About what age do you think the enclosed queen is? 3. Of what race is the worker-bee also sent? 4. Is there any hive that will prevent swarming? I ask this because of being much away from home in the day-time.—GEORGE NICHOLSON, *Stockton-on-Tees, Jan.* 8.

REPLY.—1. A worker-bee occasionally gets accidentally sealed up in a queen-cell, as stated, while in the act of cleaning it out. 2. Queen is apparently a virgin, but we cannot give any idea of her age in the present condition of the dead insect. 3. An ordinary or native

brown bee. 4. No hive will of itself prevent swarming, but good management will sometimes.

[1480.] *Bees Dwindling.*—Many thanks for your reply to my query (No. 1476, p. 227) in this week's JOURNAL. I have to-day thoroughly examined the hive, and find it in about the same state as before, but cannot detect any disease or dead brood, although the centre combs were somewhat dirty, pieces of which I am sending you for inspection. There is a deal of pollen in the combs, such as in the pieces I am sending you, and the honey in end frames and at the top of others is perfectly clear and good. 1. Are the pieces of comb sent healthy? The queen is still in the hive, as I saw her to-day and is still laying batches of eggs in one cell. 2. Do you think she is doing this because of knowing that there would not be enough bees to nurse the brood if eggs were laid in every cell? 3. Is this the reason so few bees are seen outside the hive, nearly all being required as nurses, there being plenty of food in the hive at present. 4. Would it be well for me to transfer them to a fresh hive with new frames entirely, and feed them for a time as you would a swarm? or do you think the pieces of comb sent are healthy. They are good specimens of the whole comb and are out of different frames. Thanking you for the trouble I am placing you at, also for your welcome advice.—JAS. WOODS, *Woodford, June 5.*

REPLY.—1. The comb contains nothing worse than a few cells of hard mouldy pollen; nor is it what may be justly called "dirty." There is no trace of either brood or eggs. 2. The excess of eggs you describe must arise from the paucity of bees in the hive, and the unrestrainable prolificness of the queen. 3. Probably so. 4. No need for any change of hive. Nothing would be so helpful as a small swarm or cast of bees to add to those already in the hive.

[1481.] *Dealing with Broken Comb Honey.—Bees not Working in Sections.*—1. Can I melt down and separate pieces of comb filled with honey, most of it sealed over, found broken down in travelling crate? 2. If I uncap the pieces of comb and place in open, will bees store it in sections and seal over? 3. Why do not my bees start work in sections? I have had them on a fortnight; the bees are strong, with plenty of brood, and honey coming in very freely, yet all is stored in brood nest. Will this do any harm?—ANXIOUS, *Guernsey.*

REPLY.—1. There is no need for melting down the wax. Cut the comb into slices and hang it in a muslin bag in front of the fire with a vessel below to catch the honey as it drips from the comb. 2. If uncapped and dealt with as stated, bees will certainly carry the honey off, but whether into your own hives or not will depend on the proximity of neighbouring bees. 3. It may be that the sections are not packed up sufficiently warm to induce the bees to enter the section racks. Warmth is very essential to work in sections in the early season.

Replies to several Queries and Notices to Inquirers are unavoidably held over till next week.

Bee Shows to Come.

June 22 to 26.—Royal Agricultural Society at Leicester. Entries closed.

July 1 and 2.—At Ramsgate, in connection with East Kent Agricultural Society's Show. Entries close June 18. Schedules from Henry W. Brice, Hon. Sec. Kent B.K.A., The Apiary, Thornton Heath.

July 8.—At Redhill. The Surrey Beekeepers' Association in connection with the Borough of Reigate Horticultural Society. Entries close June 30. Apply to C. E. Cuthell, Esq., Chapel Croft, Dorking.

July (about the middle of the month).—Home Park, Windsor. Windsor District Berks B.K.A. show of bees, honey, and appliances, in conjunction with the Prince Consort's Association. (Exact date of show to be fixed by her Majesty the Queen). Seven open classes with liberal prizes. For schedules apply Mr. W. S. Darby, Consort Villas, Clewer, Berks.

July 14 and 15.—At Gainsboro', in connection with the Lincolnshire Agricultural Society. Bees, honey, and bee-appliances. For schedules, apply S. Upton, Secretary, St. Benedict's-square, Lincoln. Entries close June 26.

July 22-23.—At Longton. Staffs B.K.A. in connection with the annual exhibition of the Staffordshire Agricultural Society. Show of bees, honey, and appliances. Sixteen classes and fifty prizes. Entries close June 27. For schedules, apply to Messrs. Smellie & Jones, Newcastle, Staffs.

July 24 and 25.—Bristol, Somerset and South Glos. B.K.A. shows at Knowle. Schedules from Miss Dawe, Hon. Sec., Long Ashton, near Bristol.

July 29.—Henbury. Entries close July 17 and July 22. Schedules from Miss Dawe, Hon. Sec., Long Ashton, near Bristol.

August 3 and 4.—At Delapre Park, Northampton, Northants B.K.A. Annual Show. Eight classes for honey and five "special prize" classes open to all. Entries close July 28. Schedules from R. Hefford, Secretary, Boughton, Northampton.

August 15.—South of Scotland B.K.A. annual show at Dumfries. "Burns Centenary" classes open to all-comers. Schedules now ready. Entries close August 8. James Kerr, Secretary, Douglas-terrace, Dumfries.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

GEORGE M. SAUNDERS (Keswick).—*Choosing Bee Appliances.*—We make a point of never selecting any manufacturer who advertises in our pages for special recommendation. The reasons for this should be plain to all, and when our opinion is asked concerning the merits or otherwise of hives well known as having been designed by one or other of the Editors of this journal, the situation becomes amusingly delicate. Any way, we can only say that, having tried to make the hives mentioned useful for the bee-keeper's purpose, we hope they may be found so, and that any of the four manufacturers named will turn out a good article of its kind. The same remarks apply to the section-box referred to.

W. COULSON (Derby).—*Races of Bees.*—So far as the relative merits of Ligurians, Carniolans, and the ordinary brown or black bee, opinions are divided. Some like the foreign kinds, others don't. Each must, therefore, judge from his own experience after trial. The prices of swarms may be gathered from our advertising pages, but Ligurian and Carniolan stocks are usually charged 20 or 30 per cent. higher than native colonies.

W. NIXON (Horsley).—*Cutting out Queen Cells after issue of Swarm.*—To "cut out *all* queen cells three days after the issue of a top swarm" is entirely wrong, and we are at a loss to tell how anything to the contrary has been gathered from our pages. The first young queen left behind usually hatches out on the eighth day after the prime swarm is led off by the old queen. To cut out all cells prior to the hatching out of a young queen is, therefore, the worst thing that could be done. You will have to give the bees a frame of eggs and young brood at once, in order to get queen cells again started.

W. P. HENDERSON (Biggleswade).—*Bee Association for Herts.*—Reference to page 226 of our last issue shows that the Herts B.K.A. is being re-established. The Hon. Sec.—Mr. J. H. New, 14, Essex-road, Watford—will, no doubt, afford every information if written to.

W. L. TEARE (Isle of Man).—1. By care and the use of preventives, it is quite possible to keep bees free from disease, unless neighbours wilfully allow diseased hives to be accessible to the bees of healthy colonies. It is then very difficult to keep an apiary in good health. 2. Price as before, viz., 1s. 8d. post-free.

S. V. (Plymouth).—Comb is affected as supposed. The course pursued so far is the best that can be followed.

DOUGLAS MANNINGTON (Hawkhurst).—There is foul brood in comb sent. The honey will be perfectly wholesome for household use, but not for bee food.

H. YEATS.—Comb is affected with foul brood. Full particulars as to treatment have recently appeared in our pages, to which please refer.

Special Prepaid Advertisements.

Situations, Publications, Bee Plants, &c. — Up to Twelve words, Sixpence; for every additional Three words or under, One Penny.

PURE (1895) CARNIOLAN QUEEN FOR SALE, 5s. BLACKLOCKS, Sycamores, Lydd.

STOCKS, Nuclei, Swarms, and Queens.—Address, Rev. C. BRERETON, Pulborough, Sussex.

BEES.—Healthy natural Swarms, a few to offer. —For price, apply, GILES, Cowsfield Apiary, Salisbury.

PURE IMPORTED ITALIAN QUEENS 7s. each. Cash with order. J. S. GREENHILL, 80, Graham-road, Wimbledon.

BEEKEEPERS should try PATERSON'S SCOTCH-MADE MEDAL HIVES and APPLIANCES. PATERSON, Pollokshields, Glasgow. L 11

GOOD SWARMS, superior Bees, packed free, price 15s. JOHN WALTON, Honey Cott, Weston, Leamington. M 7

YOUNG QUEENS, 3s. 6d., post free. Swarms, 10s. 6d. packed. Rev. JARVIS, Stonehouse, Gloucestershire.

BORAGE.—100, 1s. 3d.; Giant Balsams, free for postage, 3d. TAYLOR, Old Hall Lane, Fallowfield, Manchester. M 17

WANTED.—New SECTIONS, first quality, prompt cash. Also Beeswax and extracted Honey. Manager, Southdown Apiaries, Bexhill, Sussex. 197

WANTED.—Three-pint SELTZOGENE and Cash for Strong SWARM. WILLIAM HERROD, Trentside Apiary, Sutton-on-Trent, near Newark. M 32

WANTED, a "Wells'" HIVE, in good condition. Blow's make preferred. G. FOSTER-TOWNSEND, Studley, Warwickshire.

WANTED.—Swarm of ITALIANS. Particulars and price, to JOHN MOORE, Croxley, Rickmansworth, Herts. M 29

SPLENDID NEW HONEY, one 56 lb. tin, 6d. lb. 5 dozen sections, 9s. dozen. CRAM, Chorleywood, Rickmansworth, Herts. M 26

FOR SALE, strong SWARMS from Healthy Hives, packed in new straw skeps, 12s. 6d. each, packing free. LINSTEAD, Garboldisham, Thetford. M 25

WARRANTED PURE BERKSHIRE HONEY, new, large or small quantities. CHATTERTON, Faringdon, Berks. M 31

INCREASE your Honey Flow by planting BORAGE immediately. 100 plants sent post free, 1s. 3d.; 200 2s. 4d. PROPRIETOR, Battleford, Axminster. M 28

LACE PAPER for GLAZING SECTIONS. 100 strips, 7d., 200, 1s. 2d., 300, 1s. 6d., 500, 2s. 3d., 1,000, 4s. Post free. Best quality. Neat patterns. W. WOODLEY, Beedon, Newbury.

NATURAL SWARMS. My well-known strain Pure Natives, 3½ lbs. to 4 lbs., 12s. 6d. each. 1896 Fertile Queens, 3s. 6d.; 3-Frame Nuclei, 10s. 6d. Guaranteed healthy and safe arrival. Packing included. WHITING, Valley Apiary, Hundon Clare, Suffolk. M 27

BEES, Guaranteed Healthy and safe arrival, 4 lb. Swarms 11s. 6d. each. Packing and box free. Beautiful new Honey in 30 lb. tins, 7d. per lb. Tins free. A. TWINN, Apiary House, Ridgwell, Halstead, Essex. M 33

Prepaid Advertisements *(Continued)*

A STANDARD-FRAME OBSERVATORY HIVE; also a Four-frame Extractor, been used; will exchange for a Swarm of Bees for each article. Swarm boxes sent if desired. F. WALKER, Cattle Market, Derby.

ENGLISH BEES, Swarms, 12s. 6d. and 15s., or 3s. per lb., free on rail; Fertile Queens, 4s. 6d.; Virgins, 3s. post free. ROBT. NESS, Certified Expert B.B.K.A., Sproxton Park Apiary, Helmsley, Yorks.

M 1

RELIABLE QUEENS of 1896, Natives and Hybrids (Ligurian and English). Prolific laying Queens, 5s. 6d.; Virgin Queens, 3s. Sent post free in my introducing cage. Safe arrival guaranteed. Orders filled in rotation. HENRY W. BRICE, The Apiary, Thornton Heath.

KENT BEE-KEEPERS' ASSOCIATION.

GREAT SHOW
AT
RAMSGATE.
July 1st and 2nd, 1896.

BEES, HONEY, HIVES, & APPLIANCES.

LIBERAL PRIZES.

Entries Close June 18th.

Schedules and Entry Forms from HENRY W. BRICE, Hon. Secy. Kent B.K.A., The Apiary, Thornton Heath.

YORKSHIRE AGRICULTURAL SOCIETY.

GREAT
ANNUAL SHOW
On The KNAVESMIRE, YORK,
JULY 22nd, 23rd, and 24th, 1896.
£2,380 OFFERED IN PRIZES,
Including Prizes for Bee Appliances
And HONEY.
Entries Close on Saturday, June 13th.

Application for Prize Schedules and Forms of Entry to
MARSHALL STEPHENSON,
Secretary.

York, May 23rd, 1896.
Telegraphic Address: "YAS, YORK."

SWARMING SEASON, 1896.

Why Bee-keepers use the Patent Hinge Plate SELF-HIVER!

Because it is the only one in the WORLD that has been PROVED and found to be a Success!!

Send post-card for Leaflet to G. W. HOLE, Patcham, Sussex.

CARBOLINE POMADE
(FIFTH SEASON).
Kills Bee-stings like magic.
CARBOLINE POMADE
Prevents the horrible smarting and burning inflammation.
CARBOLINE POMADE
Prevents getting stung, robbing, &c.
CARBOLINE POMADE
1s. per bottle, post free, T. HOLLIDAY, ASTBURY CONGLETON.

THE CENTRAL SUPPLY STORES.
50, Great Charlotte Street, LIVERPOOL:
and 44, Fishergate, PRESTON.

GEORGE ROSE, "Seeds and Bees"
NEW ILLUSTRATED CATALOGUES, Gratis.
Chapman's Honey Plant Seed and directions, 6d. packet.
Seeds of 12 sorts of Bee Flowers and directions for 1s.

THE VERY BEST.—THE NEW AMERICAN FOUNDATION.
Arriving, large consignment of HONEY BOTTLES, usual reliable quality, tie-overs and screw-cap (with cork wad). Dealers and buyers of big lots should write requirements for special prices. I can spare about 50 three-gross crates of each, but if you want a crate or more at cheap cash price, write at once; when I warehouse, prices must advance.

SECTIONS, WITH SPLIT TOP, 2/6 100.
Headquarters for Great Britain. Buyers of big lots should write stating quantity wanted.
"Porter" Escapes, each 10d. (postage extra).
HONEY AND WAX EXTRACTORS.
NEW TRANSPARENT WINDOW BILL, very neat—"Honey from our own Bees on Sale Within."
4d. each, post free.
Smokers, 3s. 6d. each; Veils, 1s. each; well made Hives complete, with Frames, &c. from 12s. Try my "Favourite Guinea" ("W.B.C.") Hive. Standard and Shallow Frames, 1s. 2d. dozen. FOUL BROOD.—Naphthol Beta, with directions, per packet, 1s.

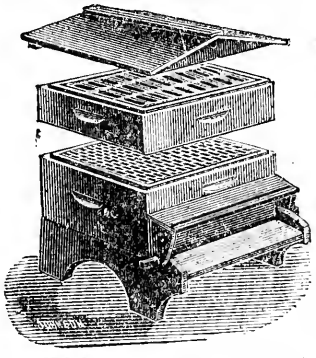
GEORGE ROSE, 50, Gt. Charlotte-street, Liverpool.

SCREW-CAP HONEY BOTTLES,
English Make. Cheap. Clean. Handy.
16-oz. size, per 10 doz., 12/9; 8-oz. size, per 6 doz., 7/-.
Packing free.

"EXPERT SMOKER" STILL THE BEST.
Both hands at liberty to work frames.
EASY to LIGHT and KEEP ALIGHT.

W. T. GARNETT, Steade Road, Sheffield.

W. P. MEADOWS, SYSTON and LEICESTER.
Address Letters SYSTON, near LEICESTER.



Wholesale Manufacturer OF Bee-Hives AND Appliances.

My Hives are well-known, and are sure to give satisfaction.

SEVERAL NEW IDEAS.

XL ALL, Complete, with Standard and Shallow Bodies and Crate Sections, **15/6**
GUINEA, on the "W.B.C." plan, with Outer Case and Fittings, as above, **21/-**
"WELLS" HIVE, Complete **25/-**

EXTRACTORS
Nearly every Bee-keeper has used these. We have made and sold nearly 4,000.
Windsor, 15/-; Guinea, 21/-
The Raynor, 30/-; The Cowan, 50/-

We make nearly everything in Bee Appliances.

SEND FOR CAT—A—LOC.

Editorial, Notices, &c.

USEFUL HINTS.

(*Continued from p.* 232).

THE HONEY SEASON.—So general has been the warmth since the late heavy rains have passed off that, except in the far north, by the time these lines are in print, honey-gathering will be in full swing. So thorough a soaking as the previously parched ground has received will be immensely helpful to the clover crop, and consequently to the bee-keeper, who, if judiciously watchful in making the most of his opportunities, has plenty of time in which to secure a good harvest, and—may we add—a fair price for his produce. Among the ways in which he may exercise his watchfulness is by steadily keeping his eye on the honey market. There is fairly reliable evidence that a large majority of bee-keepers are this year, to a great extent, giving up "sectioning," and instead are working mainly for extracted honey. The inevitable result will be a scarcity of sections. Therefore, those who are fortunate enough to have on hand a good stock of the latter now in course of being filled, may take our "hint" and not be over eager to sell out at a low figure. Moreover, there is also comfort for the "other man"—*i.e.*, he that works for extracted honey; for the quality of the latter now being gathered is so exceptionally good, that the bulk of it will be "first grade," and ought to bring top price in consequence. This will also not only assist sales, but increase the preference of consumers for the home-grown product.

CREATING A HONEY MARKET.—While on the subject of honey-selling, it may be a useful "hint" to invite attention to the several ways in which a home market for his produce may be developed by the individual bee-keeper. We do not suppose—though it is not easy to say why—that the custom of "peddling honey," as it is termed in America, will ever develop in this country to any appreciable extent. In many parts of the U.S.A. the bee-man loads up his buggy with produce from his own "bee-yard," and in the cheeriest—but, withal, independent—fashion imaginable, vends his wares from house to house, and resolutely sticks to his job until he has "sold out." As already said, we quite admit that this sort of thing is what our bee-keepers don't shine at, but there are other, and perhaps more congenial, ways in which an effort may be made by way of pushing business in "a quiet sort of way," but effective withal. For instance, there are several leaflets—obtainable at a cheap rate—dealing with *Honey as Food*, *Honey and its Uses*, and such like, the free distribution of which, we are told by those who have tried it, is most helpful in creating a home market. We also notice another "want" often felt by the suburban bee-keeper, which is now supplied for a copper or two, in shape of a little window transparency having on it the words, "HONEY ON SALE. *From our own bees.*" An unobtrusive notification like this would often cause a passer-by to step in and buy far more readily than they would enter a shop where probably only foreign honey could be purchased. Those who care to inquire as to the things we have alluded to may see particulars in the advertisements in this issue of the Rev. G. W. Bancks, of Dartford; Mr. T. Holliday, of Congleton; and Mr. George Rose, of Liverpool, respectively.

"TO CORRESPONDENTS."—It may not be out of place to ask that correspondents, when writing for information on some puzzling question connected with bees and their management, will be as clear as possible in furnishing particulars. It should surely occur to those who write us in this way that they cannot be too explicit in giving details, because what would be perfectly plain to any one on the spot, becomes as difficult to understand as "double Dutch" by any one miles away from the scene of action, and with only a few half-expressed sentences in writing to judge by. So long as names are omitted, there can be no offence in quoting *verb. et lit.* a specimen just received of the sort of inquiry we refer to, in order to show how far vagueness may be carried, and how little such communications assist in "diagnosing" a case. The writer says:—

"Would you be kind enough to assist me? On the 18th of May I put several frames of brood and bees attached; on June 1st I gave them eggs; on the 9th

I find there are several queen-cells. Do you think it likely there will be a good queen come from one of the cells?"

Now, in the first place, we ask ourselves: 1. Where did the writer put frames of bees and brood on May 18? 2. Why were they so put? 3. What was the idea in giving eggs on June 1? 4. What object had the writer in view in these several operations? We can, of course, suggest a number of motives and objects which *may* have actuated him in what was done; but the question is, shall we hit upon the right one, and is it fair to inflict on us the task of puzzling our brains in the endeavour to find out what is meant? It is not easy to say too much by way of explaining matters, but very easy indeed to say too little. We may also refer to complaints occasionally made by correspondents whose letters are not printed, and ask why? Well, by way of reply we insert one intended by the writer as a contribution to the question of Foul-brood Legislation, which—but for the purposes of illustrating our point—would probably have been pigeon-holed along with others not considered useful in forwarding the object in view. Among other "arguments," the writer goes on to say:—

When a cottager has bought a pig, and in a few weeks it faulters, he sends for a Vet., who condemns the animal and says, "Kill and bury it; you shall have its value." But if I buy a stock of bees, say for 30s., just get them home, and they are attacked with the disease, I must let the inspector know; he comes, passes the same sentence as the other gentleman, and offers me the large sum of, say, 7s. 6d. or 10s. Now if I am to lose my stock for the pleasure of others I say it should be replaced by another stock, or the value of one. I would say (with all due respect to those who drafted the proposed Bill) the maximum compensation for stock should be 30s. If the unfortunate bee-keeper has to lose his stock for the sake of others around him, I say give him its full cost value, and sooner than take a mere trifle of compensation, I would rather give the bees the last chance to live or die. If you compel me to send my children to the hospital when stricken down by fever, you provide for them, and if they live and get well you restore them from whence they came. If we are to have compulsory laws with regard to bees, let us have the same sort of liberality.

In publishing these extracts we have, in some measure, complied with the wish of the writer, who "trusts his letter may bring forth more opinions on the Bill." We sincerely hope not, for there is no doubt that his own contribution quite "fills the bill."

BEE-APPLIANCE MAKERS
AND THEIR CUSTOMERS.

The question asked last week by our correspondent "C. F. M." (2531, p. 235) has been replied to from so many quarters—embracing both dealers in bee-appliances and users of the same who recommend special manufacturers—that we could not possibly find room for their insertion, even were it expedient to do so. We have, however, before us sufficient evidence to make clear what we ourselves had no doubt of, viz., that the bulk of those who advertise in our pages are both reliable and prompt in dealing with customers who are reasonable and willing to comply with ordinary business rules.

Several dealers ask, "Was cash sent with order" in the case referred to? It being found necessary to insist on this proviso, owing to the low prices for bee-goods brought about by close competition. We are also assured by several of those whom "C. F. M." terms "our best-known houses"—who send their names and challenge contradiction—that nearly all orders are filled and despatched on the first or second day after receipt—small goods being sent off same day. Special articles or those not usually stocked, of course, take longer, but we are assured that our correspondent will have no difficulty whatever in getting the goods he names, *i.e.*, "an extractor and other things" of an ordinary kind put on train the same day on which an order—with cash at catalogue price—is received.

This may be taken as a reply on behalf of those who answer the query put on page 235, and will, no doubt, serve our correspondent's purpose. We cannot for obvious reasons make public and recommend particular firms for patronage, nor do we deny that there are exceptions to those who may be called reliable, but they are few and far between, and our experience—after inquiry—leads to the belief that—in most cases—where complaint is made, there is something to be said on both sides.

BRITISH BEE-KEEPERS' ASSOCIATION.
"Royal" Show at Leicester.

Communications to the Secretary, posted from now till Saturday next, June 27, should be addressed to c/o Miss Hutton, "The Woodlands," Syston, near Leicester.

The Committee will be glad to be favoured with small consignments of flowers for the embellishment of the Bee Department at the Royal Show. Parcels may be consigned by Parcels Post, or by rail (in the case of short

distances) addressed to the Secretary, Bee Department, Agricultural Show Ground, Leicester. The committee will be glad to refund the outlay incurred in posting such parcels.

Report of the usual monthly meeting of the Council will appear in our next.

ROYAL CORNWALL AGRICULTURAL ASSOCIATION.

SHOW AT ST. IVES.

This show was held on June 9 and 10, and a more beautiful site for it could hardly have been selected. The ground chosen was on a slope overlooking Carbis Bay, with the fishing town of St. Ives picturesquely nestled in front of a projecting headland. The weather was perfect as far as the show was concerned, and the bright sunshine intensified the deep blue colour of the Atlantic Ocean rolling its huge waves just beneath ; but notwithstanding this we were painfully reminded by the burnt-up aspect of the grass all round that there had been no rain for some weeks. The honey show was held in the horticultural tent, and there was a very fair display of honey, some of the sections being very good indeed. It is a pity that the very liberal schedule did not tempt some appliance makers to exhibit ; so that owing to there being no collection shown, a complete set of appliances could not be seen. There was only one entry for the best observatory hive, but just credit is due to the exhibitor for the excellent way in which this exhibit was prepared and staged. The three combs contained worker and drone brood, as well as a queen-cell in process of construction, honey, and empty cells of both workers and drones. In the cottager's hive class, price not to exceed 10s. 6d., there were three entries, and owing to a misunderstanding. the hive exhibited by Mr. J. Bamlett, though far better made than any of the others, could not receive the prize, as there was too much work in it for the 10s. 6d.; indeed, we should consider it cheap at double the price. It was, however, highly commended for the excellence of workmanship.

The success of the bee show is due to Mr. W. K. Baker, the chairman and secretary of the local bee exhibition committee. The manipulations in the bee tent were carried out by Mr. Brown, of Polyphant. On the first day of the show a meeting was held in the bee tent, and the Cornwall Bee-Keepers' Association was re-started, with the Hon. John Boscawen as president. The following were named for the committee : Miss M. Williams, Mrs. Tomlinson, Rev. J. Sowell, J. A. Kempe, W. H. Hughes, A. T. Boscawen and Messrs. W. K. Baker, T. W. Cowan and J. Gill. It was arranged that Mr. Baker should call a meeting at an early date to elect officers and strengthen the committee.

Mr. T. W. Cowan acted as judge, and examined four candidates for 3rd class certificates on the first day of the show. The following are the awards :—

Class 2. *Observatory Hive.*—1st, C. C. Williams.

Class 3.—*Best and most complete Frame Hive.*—1st, C. C. Williams.

Class 4.—*Cottager's Hive. (Price not to exceed* 10*s.* 6*d.*)—1st, A. Curnow, Borea ; 2nd, C. C. Williams ; h.c., J. Bamlett.

Class 5.—*Honey Extractor.*—1st, W. O. Meadows ; 2nd, A. Curnow, Borea.

Class 6.—*Six* 1*-lb. Sections gathered during* 1896.—1st, A. Curnow, St. Hilary ; 2nd, Rev. A. T. Boscawen ; 3rd, J. Treloar.

Class 7.—*Six* 1*-lb. Jars Extracted Honey,* 1896.—1st, A. Curnow, St. Hilary ; 2nd, A. Curnow, Borea ; 3rd, W. A. Curnow.

Class 8.—*Three Shallow-Frames of Comb Honey,* 1896.—1st, A. Curnow, St. Hilary ; 2nd, A. King ; 3rd, A. Curnow, Borea.

Class 10.—*Best Display of Honey.*—1st, C. C. Williams.

Class 11.—*Beeswax.*—1st, C. C. Williams ; 2nd, A. Curnow, Borea.

Class 14.—*Miscellaneous.*—5s., Mrs. Tomlinson, for sponge-cake made with honey.

ROYAL COUNTIES AGRICULTURAL SOCIETY.

BEE AND HONEY SHOW AT EASTBOURNE.

The exhibition of bees and bee appliances was held on June 9 to 12, under the auspices of the British and Kent Bee-keepers' Associations, one of the objects being to promote the industry by the formation of an Association for Sussex. The exhibition was most interesting, and some excellent honey and appliances were staged. During the first day the Duke and Duchess of Devonshire visited the Bee Section of the show, and had explained to them the various appliances, and the forms in which honey is harvested under the modern improved methods. His Grace was also interested in hearing of the efforts being made by Bee Associations in order to obtain legislative power for dealing with foul brood or bee pest, a great hindrance to the extension of the industry. In a tent adjoining that in which the exhibits were staged, Mr. Roland Green, the expert, conducted demonstrations with live bees. The judges—the Rev. G. W. Bancks, Green-street Green ; the Rev. C. Brereton, Pulborough ; and Mr. J. M. Hooker, Lewisham, made the following awards :—

Collection of Appliances.—1st, J. S. Greenhill, Wimbledon ; 2nd, T. Lanaway & Sons, Redhill ; h.c., C. T. Overton, Crawley.

Observatory Hive.—1st and 2nd, C. T. Overton ; h.c., E. Drinequbier, Dover.

Frame Hive. — 1st, James Lee & Son, Holborn-place ; 2nd, T. Lanaway & Sons ; h.c., J. S. Greenhill ; c., C. T. Overton.

Cottager Hive.—1st, James Lee & Son ;

2nd, T. Lanaway & Sons; h.c., J. S. Greenhill; c., C. T. Overton.

Twelve 1-lb. Sections.—1st, William Pether, Henley; 2nd, H. W. Seymour, Henley; 3rd, E. C. R. White, Salisbury; h.c., E. Drincqbier.

Shallow-Frames Comb Honey.—1st, Edward Longhurst, Longfield, Kent; 2nd, G. Wells, Aylesford; h.c., E. C. R. White.

Twelve 1-lb. Jars Extracted Honey.—1st, H. W. Seymour; 2nd, E. C. R. White; 3rd, E. Longhurst.

Honey Trophy.—1st, Edward Longhurst; 2nd, E. Drincqbier.

Beeswax.—1st, E. Longhurst; 2nd, E. C. R. White; c., A. J. Carter, Billingshurst.

Useful Inventions.—1st, T. Lanaway & Sons (frame crate); 2nd, T. Lanaway & Sons (honey crate and stand).

Honey Beverages, &c.—1st, T. G. Worsfold; 2nd, H. W. Seymour.

ESSEX BEE-KEEPERS' ASSOCIATION.

ANNUAL SHOW AT BRENTWOOD.

This annual show took place as above on the 10th and 11th inst., the weather on the opening day proving very unfavourable. In fact, the drenching rain which fell from opening until closing time prevented any attempts at bee-driving. However, an exceptionally excellent show of this year's honey was on view; indeed, such quantity and quality is not often to be seen at an Essex show. Many asserted that the collection was a record one in every way, the past fine weather being mainly responsible for such a highly satisfactory state of things. Every exhibit was splendid honey of the clearest kind possible. The second day of the show in some measure made amends for the untoward condition of things.

Mr. J. M. Hooker was the judge, and made the following awards:—

Hives and Appliances.—1st, F. Tunbridge, Chelmsford; 2nd, H. Hutchings, St. Mary Cray.

Useful Inventions.—1st, W. P. Meadows, Syston, Leicester.

Frame-hire for Cottagers' Use.—1st, J. Lee and Son, Holborn-place, W.C.; 2nd, F. Tunbridge.

Twenty-five 1-lb. Sections.—1st, T. Colyer, Good Easter; 2nd, F. J. Carter, Galleywood; 3rd, A. Mayell, Bradwell-on-Sea.

Twenty-five 1-lb. Jars Extracted Honey.—1st, T. Colyer; 2nd, F. J. Carter; 3rd, W. Loveday, Hatfield Heath.

12 lb to 20 lb. of Comb and Extracted Honey.—1st, A. Twinn, Ridgwell, Halstead; 2nd, F. H. Brenes, Brentwood.

Three Frames of Honey for Extracting.—1st, F. H. Brenes; 2nd, Rev. E. Bartrum, Wakes Colne Rectory; 3rd, T. Colyer.

Twelve 1-lb. Sections.—1st, C. M. Collins, Tillingham; 2nd, Rev. R. T. Shea, Little Wakering Vicarage; 3rd, A. Twinn.

Six 1-lb. Sections.—1st, A. Twinn; 2nd, C. M. Collins; 3rd, G. Alexander, Brentwood.

Single Section.—1st, A. Twinn; 2nd, Rev. R. T. Shea; 3rd, T. Colyer.

Twelve 1-lb. Jars Extracted Honey.—1st, T. Colyer; 2nd, W. Loveday; 3rd, F. H. Brenes.

Six 1-lb. Jars Extracted Honey.—1st, T. Colyer; 2nd, W. Loveday; 3rd, F. H. Brenes.

Six 1-lb. Jars Granulated Honey.—1st, T. Colyer; 2nd and 3rd, W. Loveday.

One 1-lb. Section.—1st, A. Twinn.

Beeswax.—1st, T. Colyer; 2nd, T. J. Weston, Great Totham.

COTTAGERS' CLASSES.

12 lb. to 20 lb. of Comb and Extracted Honey.—1st, C. Bansey, Bulford; 2nd, W. Loveday; 3rd, H. Hale, Broomfield.

Single 1-lb. Section.—1st, C. Dansey; 2nd, W. Loveday and C. M. Collins (equal).

Six 1-lb. Sections.—1st, C. Bansey; 2nd, H. Hale; 3rd, A. Mayell.

Beeswax.—1st, A. Mayell; 2nd, W. Loveday; 3rd, C. M. Collins.

Bee-driving operations were in full swing throughout Thursday, and the lectures given by Mr. E. Durrant, with the assistance of Mr. F. Tunbridge, the County expert, were very largely attended, Mr. W. C. Girdlestone and Mr. Percy Gray, hon. sec., rendering much assistance in the arrangement of the bee-tent where the lectures took place.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

BEE NOTES FROM CENTRAL OXON.

[2533.] The county of Sussex must be a delightfully paying one for bee-keepers, judging by the cheering report from W. R. N. (2526, p. 233). It makes one's mouth water to read of 50 lb. of honey per hive gathered before the clover season begins. We have had a scorching drought in these parts, only broken by a few slight showers, and we need a soaking rain badly. The sainfoin is cut, and clover hay crops are almost nil. Much of the last sown corn has not come up at all, neither will it until the ground is well saturated. Swarms, too, have been scarce with us. My bees did not winter so well as they should have done. Out of eighty-seven stocks—autumn count—I lost eight from queenlessness, drone-breeding queens, dwindling, &c. As each stock was left with 20 lb. to 25 lb. stores, and a 2 lb. box of candy under its six quilts as a sort of "Hill's Device," I felt

somewhat puzzled at their lack of strength, seeing 'what an exceedingly mild winter we had had. But I have since discovered to my disgust and disappointment that the sugar with which I fed up last September was from beet instead of pure-cane, although I was assured that it was cane-sugar. I do not think that grocers, or their assistants, either know or possibly care what their sugar is made from, provided that it looks nice, white, and saleable. I wintered fourteen lots of driven bees—two lots in some hives, three in others—with a one-eighth thick perforated division-board between each lot; but to my surprise they closed up the perforations in each case and did not cluster contiguously to each other. Neither did they come out any stronger for that treatment, although left with 20 lb. each of natural stores and a 2 lb. box of candy. Many of my queens were bred last year, and none are more than two years old. Bee-keeping and farming naturally go together, but if the best results are to be obtained from the hive, farming must take the second place, because, if one has a large apiary, the state of each hive varies so frequently that it should be looked into almost every other day during the honey-season, or it will have too much room or not enough. Another thing surprises me—many of my young queens are not so prolific as those two years old, and I have even occasionally had a three year-old queen beat the lot.—APIARIST, *Fairspeir, Ascott-Wychwood, Oxford, June* 15.

APPLIANCE DEALERS AND THEIR CUSTOMERS.

[2534.] I see some one in last number of B.J. (page 235) asks for the name of a bee-appliance maker who will send goods within a fortnight. I hope there will be some response to the query, for I am in search of the same information. I also tried two makers—one Scotch, the other English. The first kept me waiting ten days, and even then sent me no receipt for my money. The second, to whom I sent a large order for bees and appliances, did not acknowledge receipt of cheque in any form for a fortnight, and failed to advise me of the sending off of the goods. I had at last to send a telegram asking for information, prepaying reply, and found the goods had been on the way for four days, and the bees were not then sent off at all! It is now three weeks since I sent the order, and not a single thing has reached me yet. The dealings I have so far had with manufacturers have not caused me to entertain a good opinion of their business qualities, and as other people complain of the same I begin to think they must be all alike.—E. D. A., *Midlothian, N.B., June* 15.

[Notwithstanding our having dealt with this subject generally on another page, we insert above as (on the face of it) a flagrant case of bad treatment on the part of some one. We will be glad if our correspondent will furnish us with names of the persons complained of; not for publication, of course, but for purposes, may be, of subsequent attention on our part —EDS.]

REMEDIES FOR BEE-STINGS.

[2535.] Referring to Hudson's Dry Soap for bee-stings I have not tried it, but I use Grimshaw's Apifuge which is very good but not infallible. I tried it this morning and got stung, so I had to resort to my own simple remedy which I find suits my case better than anything I have tried. This is what it consists of: As soon as stung I lick the place with my tongue, rub a little moist earth well over it. The result is I have no swelling and in five minutes no pain. The remedy, too, is always at hand.

My bees are doing very well; I got two swarms in May—a thing I have not had before. On June 14 I took off some well-filled sections, and should this fine weather continue for a fortnight I should have a good take of honey. I think there is a good prospect for this district generally. — P. H. KETTLEWELL, *Knaresboro', June* 15.

[2536.] I have often seen remedies mentioned for stings, but I have not seen any allusion to the simple one which I have found most efficacious, viz., to scratch the spot well for about half a minute with the hot nozzle of the smoker, rubbing in a little of the black fluid (a kind of tar, I presume) which collects there. I have found this to relieve the pain in a few seconds, and although the part used to swell with me considerably when I tried ammonia, &c., since trying the above the swelling is reduced to a minimum.—FREDK. OLDFIELD, *Bomere Heath, Salop, June* 9.

SPARROWS AND BEES.

[2537.] Referring to 2511, page 206, I find sparrows the greatest enemies to bees I know of. My garden is infested with them. They not only pick up every bee that happens to be on the ground, but fly up and take them from the alighting board. I believe scores of my bees are destroyed in this way every day.—G. T., *Chippenham, June* 12.

BEE-KEEPING IN THE WOTTON-UNDER-EDGE (GLOS.) DISTRICT.

[2538.] Honey has been coming in remarkably well here, and if the weather continues good for some time this will probably be a record year. The honey is also of exceptional quality. Swarms, too, have been both numerous and strong. A week ago, at Tresham, a swarm settled on a cabbage-stump, and remained there 18 hours before it was taken. Another was taken from a beanstalk, whilst

a third entered a hole in the wall of a house, followed the course of a rafter, and is now busy at work behind a fireplace. "It is an ill wind, &c." and, though some one lost a grand swarm, in May, the Wotton Association gained a new and enthusiastic member, through a queen choosing a garden-wall for a resting-place.

At the May monthly meeting of the local association Mr. A. T. Brown read a very interesting paper relating to his experience in dealing with foul brood. *Bacillus Alvei* was shown in the rod and spore stages. It was also demonstrated that the process of making wax from diseased comb does not kill the spores.

The chief feature of the June meeting was a paper by Mr. W. Hulance on "Profitable Bee-keeping."

We congratulate our fellow-member, Rev. G. Jarvis, on his success in the examination for 1st Class Certificate.—E. W. READ.

Echoes from the Hives.

Honey Cott, Weston, Leamington, June 11. —During the last few days we have had a good dose of the much wished for rain, and with a change to fine, warm weather our bees will make the best of it, seeing that whole fields of beans here are now in full bloom. The probability is that we shall also have a lot of white clover bloom around us now that the ground has had such a thorough soaking.—JOHN WALTON.

Boxted, June 12.—In "Useful Hints," you remark on the scarcity of honey in many districts, and this is true of South Suffolk. Early in May we had splendid weather, and while fruit-trees were in bloom, honey was coming in rapidly, so much so that some of us had to super in a hurry to prevent swarms coming off. Many of my stocks were better provisioned and more forward at that time than to-day, June 12. Since the rain has come we are hoping it will bring later bloom, but up to the present our prospects are anything but good.—GEO. HILL.

Ramsgate, June 13.—Bees are doing well here, I have already removed forty-two sections from one hive, and find the one under the last partly capped. From two others I have extracted about eighty pounds.—ALFRED VIGAR.

Queries and Replies.

[1482.] *Removing Bees from Hollow Tree.* —A swarm of bees last year took possession of a hollow tree and built combs therein. The opening was very large and after the boards (which had been nailed on to protect them) are taken off the combs can be seen inside about a foot or more away. What is the best method of getting them out combs and all? If a bee-escape was fitted on the outlet to allow bees to get out but not in again would they cluster in the evening and leave combs clear enough to be taken out with impunity, or would it be safe, after merely smoking them, to break the combs away and lift them out bees and all and fix them into bar-frames?—"PHŒNIX."

REPLY.—We should on no account adopt the bee-escape plan—but just use smoke to keep the bees under while cutting out the combs one by one as proposed. Care should be taken not to chill the brood while transferring the combs to frames. The bees must be brushed off each comb as removed and allowed to enter the frame-hive in which the combs are placed as fixed in the frames. Keep a good look-out for queen during the operation, and see that she is safely housed in the new hive.

[1483.] *Transferring Bees.—Removing Bees to Heather.*—About April 20 last I put a strong skep over a frame-hive, and the bees soon took possession; but the queen did not go down until about the second week in May, and I fancy she still continues laying in both skep and frame-hive below. 1. Do you advise my putting a super between skep and frame-hive, so that these two (skep and super) form the surplus-chamber? My difficulty is to know when the queen is down below, because if she is in the skep when I put on the super (2), would not this divide her from the brood-nest? 3. How can I get over this difficulty? 4. Could you give me any idea, or approximate average, of the amount of heather-honey taken, as compared with that of the general harvest? Of course this varies a great deal, but if you could give me a rough idea I should be glad. 5. Could you refer me to numbers of the B.B.J. in which I can find particulars about taking bees to the heather? —TWO-YEAR-OLD, *Shrewsbury.*

REPLY.—1. By all means, in view of the rapid honey income during the present fine weather. 2 and 3. No harm can follow with plenty of bees at this season. 4. As a rule we should consider 20 lb. per hive from the heather a good return, but no average can be struck where so much depends on weather and condition of the heather bloom. 5. The subject has been dealt with so often in our pages as to render difficult a special mention, but the most recent lengthy reference to moving bees to the heather occurs in our issue of May 14 last, p. 197.

[1484.]—*Introducing Queens.*—After killing the old queen of one of my hives on May 30, I, at same time, introduced a young fertile queen, protecting her by means of an ordinary pipe-cover cage. Forty-eight hours afterwards I released her by removing the cage, when she was immediately "balled" by the bees, although I had taken the precaution to cut out several queen-cells, built by the bees in

the interval. I liberated two other queens (dealt with in the same way) with precisely similar results. I therefore ask:—1. Is this a critical season for introducing queens? 2. Will the bees be more willing to accept a strange queen if I removed all sealed brood, or would they take to her more readily if I remove all brood with just enough bees to hatch it out safety, and then return these combs and bees when queen has been accepted by the broodless bees left in the hive? 3. May honey from a hive affected with foul-brood be used for household purposes?

REPLY.—1. The first mistake made was in giving a young queen immediately on removal of the old one. The bees should have been left queenless for at least twenty-four hours. A second error was to introduce two others in one day. This is not a "critical time," but rather the contrary, for queen introduction. 2. It is not necessary to remove brood when the introduction of a young queen is desired. Sometimes bees will object to accept a queen at all, and this may be the case here, though, as stated above, we think our correspondent has not gone about the matter in the right way, and should, therefore, read up a good guide book on the subject. 3. Honey from such stocks is perfectly wholesome for household use.

[1485]. *Show Schedules.*—We are going to have a local show of flowers, fruit, &c., in July next, and section 4 is an amateur class for honey and bees. Would you kindly define the following items in the schedule which are not quite clear to me:—1. "Best three bottles run honey." Does this mean liquid or granulated? 2. "Best dish of honey in the comb." Is this supposed to be fancy honey in the comb, or would shallow frames do? In the latter case, should I cut the comb out of frames or leave them in? How many should I put in a super over a fairly good stock standard size? 3. "Best lot of bees in glass case." I have an observatory-hive holding one Standard frame. Would that answer the purpose?—T. G., *Staffs.*

REPLY.—The schedule has apparently been framed by persons not accustomed to bee-show phraseology, and we can only read it in the light of ordinary experience, which leads us to answer your queries as follows:—1. Liquid honey of the current year. 2. We cannot imagine anything is meant beyond what the words express. The combs may be cut from a straw super or a skep and set on a dish. On the other hand, unless the class is intended for skep-honey only, we do not see how comb-honey in frames could be disqualified without something to that effect being stated. The best plan would be to write and inquire of the secretary; cutting the combs out of frames and setting them on a dish if that rule was to be enforced. 3. This is another moot point. It may be that a stock of bees in glass-sided hive is intended. Here again the officials of the show must be consulted to make the matter clear, for we cannot tell what they may have in mind.

[1486.] *Swarm-catchers.*—As an amateur bee-keeper and reader of your valuable B.J., I send herein a dead queen found on the evening of 31st ult. along with a few dead bees inside "swarm-catcher," which I set on to a straw skep a week before in order to avoid loss of swarm. 1. Is this the old queen of stock that would leave with the swarm, or could it be a young queen coming out to meet the drones killed in its endeavours to get through excluder? 2. If so, will the loss of this queen keep the stock from swarming again? 3. Would it be better now to take the "catcher" off hive altogether?—M. MACK, *Beauly, N.B.*

REPLY.—Queen sent (a fine one) was the mother-bee of the stock which swarmed. Having no details as to make or form of "swarm-catcher," we cannot account for the mishap, but it is evident that from some cause the swarm failed to join the queen (when the latter got imprisoned in the catcher) and returned to their hive. The queen has no doubt worried herself to death trying to escape. Under all the circumstances, we should take off the swarm-catcher at once. The swarm will be almost certain to issue again in from eight to ten days after the first attempt, and it will not be advisable to risk a repetition of the mishap resulting in death of the queen.

[1487.] *Re-queening Stocks.* — Three days ago I examined a hive which was evidently not progressing satisfactorily. I found a few patches of sealed brood, no larva in any stage, but a few eggs were seen irregularly deposited on the side of the cells, none being more than two or three days old. I also noticed empty queen-cells on a frame of brood and eggs given a month ago to strengthen this colony. From this it would appear as if the bees had set to work to raise a new queen immediately the frame of brood and eggs was given them, with the intention of superseding their own old and worn-out one. But why did they not do this before on their own combs? and when they did start they confined themselves to raising queen from the new-added frame only, although they had plenty of eggs elsewhere in the hive. Seeing the stock was practically queenless (I suspected fertile worker) I united with a nucleus colony having a fertile queen which had been laying about a week. To-day I find the enclosed bee thrown out of the hive (three days after adding new queen). Will you please examine this and say if I am right in supposing it to be "unfertilised"? Its wings also seem deformed, and this may account for it not getting "mated."—F. W. PLACE (a twelve years' subscriber to B.J.), *Betley, near Crewe, June* 10.

REPLY.—It is not stated whether or not there was brood and eggs in the hive at the time of giving the frame from another time a month ago to "strengthen the colony." The eggs laid later—several in a cell—were evi-

dently regarded by the bees as abnormal (whether those of a worn-out queen or of a fertile worker does not appear), and were eaten by the bees as produced instead of being allowed to hatch out in the usual way. For the rest, and judging from what took place subsequently, we should suppose that at the time of "giving a frame of brood and eggs," in the first instance, the bees were queenless (or possibly a fertile worker was present). Consequently, when normal brood and eggs were offered them, queen-cells were at once started, and probably a queen raised from one of these. The queen thus raised has then either been lost on her marital flight, or has failed in mating. Any way, the queen cast out of the hive is an adult, killed apparently by "balling" (there is plain evidence pointing this way), and we take it she is the queen of the nucleus colony joined on to the other lot of bees—unfortunately, as we suppose, without the precaution of caging. The dead insect sent is too hard for examination as to fecundation, but it has every appearance of a laying queen.

[1488.] *Doubling Stocks.*—I have seven stocks of bees, and just at beginning of fruit trees blooming I doubled two of the strongest of them—*i e.*, I took frames of brood (no bees) from the hive and put them in super over a second hive. Since that date the ground in front of the doubled stock has been nearly continuously strewn with dead bees. The two adjoining hives also slightly suffered in same way. I placed glass in front and reduced entrance to ½ in. or less (a zig-zag one, too). I also put cloths steeped in carbolic acid solution on alighting board and on the porch, as recommended for robbing in "Guide Book," but with little or no appreciable result. I have now come to conclusion it is not "robbing" at all in case of the doubled stock, which is a very strong one, and well capable of taking care of itself; but ask, is it not likely that as the bees of one stock are from an English queen, and the other from a hybrid Italian, the bees of upper box, being of rather different breed, would fight with those of the box below? I should like to have your opinion and any suggestions you may be pleased to make.—W. J. Brown, *Bridport.*

Reply.—If the stock to which the combs of brood were given was sufficiently strong in bees, and the directions given in "Guide Book," carefully attended to, no such result as stated should have followed. As a matter of fact, all young bees are regarded (by their elders) as members of the community among whom they make their first appearance as bees, regardless of where they came from. On the other hand, if there were insufficient bees in the stock—to which the brood was given—to keep the hatching brood at a proper temperature, it is quite reasonable to suppose that the baby-bees would come into the world of bee-dom starved, weak and consequently ill-fitted to get through the first few hours of their existence, during which warmth and food is of such paramount importance to the "baby."

This is the only explanation we can offer to account for the dead bees being found outside, it being a well-known fact that bees, weak or defective from any cause, generally crawl out of the hive to die. You may rely upon it that—other precautions or conditions being attended to—the operation of Doubling as described in the "Guide Book" is perfectly safe.

The precautions taken against supposed robbing may have conduced to the mischief, seeing that a "zig-zag" entrance, with a width of "½ in. or less," is a veritable death-trap to bees under such conditions.

Bee Shows to Come.

June 22 to 26.—Royal Agricultural Society at Leicester. Entries closed.

July 1 and 2.—At Ramsgate, in connection with East Kent Agricultural Society's Show. Entries close June 24. Schedules from Henry W. Brice, Hon. Sec. Kent B.K.A., The Apiary, Thornton Heath.

July 8.—At Redhill. The Surrey Bee-keepers' Association in connection with the Borough of Reigate Horticultural Society. Entries close June 30. Apply to C. E. Cuthell, Esq., Chapel Croft, Dorking.

July 15.—Home Park, Windsor. Windsor District Berks B.K.A. show of bees, honey, and appliances, in conjunction with the Prince Consort's Association. Seven open classes with liberal prizes. For schedules apply Mr. W. S. Darby, Consort Villas, Clewer, Berks. Entries close July 8.

July 14 and 15.—At Gainsboro', in connection with the Lincolnshire Agricultural Society. Bees, honey, and bee-appliances. For schedules, apply S. Upton, Secretary, St. Benedict's-square, Lincoln. Entries close June 26.

July 22-23.—At Longton. Staffs B.K.A. in connection with the annual exhibition of the Staffordshire Agricultural Society. Show of bees, honey, and appliances. Sixteen classes and fifty prizes. Entries close June 27. For schedules, apply to Messrs. Smellie & Jones, Newcastle, Staffs.

July 24 and 25.—Bristol, Somerset and South Glos. B.K.A. shows at Knowle. Schedules from Miss Dawe, Hon. Sec., Long Ashton, near Bristol.

July 29.—Henbury. Entries close July 17 and July 22. Schedules from Miss Dawe, Hon. Sec., Long Ashton, near Bristol.

August 3 and 4.—At Delapre Park, Northampton, Northants B.K.A. Annual Show. Eight classes for honey and five "special prize" classes open to all. Entries close

July 28. Schedules from R. Hefford, Secretary, Boughton, Northampton.

August 5 and 6.—Chester Horticultural Show and Fête. Exhibition of honey, hives, and bee-appliances. To be held on the Roodee. Liberal prizes. Schedules from J. Wynne-Ffoulkes, Esq., Crypt-chambers, Chester. Entries close July 23.

August 7.—At Strathpeffer, N.B. Strathpeffer and District Horticultural and Bee-keeping Society. Ninth annual show, which includes bees, hives, and honey. Schedules of prizes from J. H. Bisset, Schoolhouse, Fodderty, Dingwall.

August 15.—South of Scotland B.K.A. annual show at Dumfries. "Burns Centenary" classes open to all-comers. Schedules now ready. Entries close August 8. James Kerr, Secretary, Douglas-terrace, Dumfries.

September 9 and 10.—At Derby. In connection with the annual show of the Derbyshire Agricultural Society. Fifteenth annual show of the D.B.K.A. as above. Liberal prizes for bees, hives, and honey. Six of the eighteen classes are open to all comers. Schedules for bee-section from F. Walker, Cattle Market, Derby.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

A. Bayley (Brightlingsea). — *Returning Swarms. — Experts' Certificates.* — 1. It is not at all certain that the bees will swarm again at all this year after cutting out queen-cells and returning the swarm, so we cannot "give you a date when they will swarm again." 2. Your part of Essex must be later as a honey district than the county generally if mid-June is the earliest date on which sections are ever got. For particulars as to experts' certificates write to Mr. E. H. Young, Secretary, B.B.K.A., 12, Hanover-square, London, W.

Sidney Larbey (Shottermill). — *Observatory Hives*—The space between glass slides of an observatory hive should be about 2½ in., so that no risk occurs of wedging tightly and constantly crushing bees between face of comb and the glass, as will happen if the combs inserted are over the orthodox 1½ in. thick.

J. A. C. (Dorset).—*Queen-raising.*—Without further particulars as to *where* and *why* the several frames of brood were put somewhere not stated, and the object aimed at in so doing, it is impossible to answer your query properly or fully. We may, however, say that if eggs and brood are given to a colony of bees, and sealed queen-cells are found eight days later, it may be pretty safely assumed that one or more queens will hatch out from such cells in fifteen or sixteen days after the time the eggs were laid.

C. E. G. (Rugby).—*Drones cast out in June.*—Though not of frequent occurrence, it does happen (we know of several cases this season) that drones are cast out of prospering stocks. Nothing of any moment need be feared from it.

George Leake (Ludlow).—*Honey Labels.*—The label sent is known as the "Tom Sells" label, and may be had from most dealers in bee-appliances.

T. M. G. (Chippenham).—*Extractors.*—The advantage of a cog-gearing to extractors is undoubted; it reduces the labour very considerably. After having gone through the work of extracting for many years with and without the gearing, we should not like to dispense with the latter.

Appliance Dealers and their Customers.—The question is so fully dealt with on another page as to make it unnecessary for us to do more than refer the many correspondents who have written in reply to 2531, p. 235, to what appears on p. 242.

C. Charley (Ince, Chester). — *Young Bees Thrown Out of Hive.*—We cannot suggest either a cause of bees being thrown out or a remedy for the mischief without inspecting the hive or combs. Sometimes a crooked brood-comb will cause aborted brood and consequent imperfect bees, which crawl out of the hive to die; but only examination of combs can settle such points.

H. Otto Thomas (Kent). — *Starting Bee-Keeping.*—1. The present is a very favourable time for making a start with a couple of good swarms. We say two, because it is not quite safe to rely upon wintering the first stock possessed, and to guard against possible mischance a second one is advisable. 2. It does not follow that both swarms and hives need come from the appliance maker who supplies the latter. Good natural swarms are advertised in our pages, and can be bought by weight, thereby ensuring a strong one by proportionate payment. Full particulars as to hiving, &c., will be found in "Guide Book," the new edition—now just issued—having several illustrations from life photos of hiving operations. 4. We cannot send you any copies of Bee Journal so directly bearing upon practical bee work as the information contained in the above book. 5. So many of our advertisers are thoroughly reliable makers of bee appliances that we never single out special ones for recommendation.

G. W. B. (Horncastle).—*Bees Deserting Hive.*—The fact of the skep being found foodless when examined—after its desertion by the bees—points to what is called a "hunger swarm," *i e*, bees which forsake their home in despair, in the hope of finding better quarters elsewhere.

W. Morris Fletcher.—Queen is of the ordinary or native variety. She is an adult and probably fertilised, but too hard and dry for post-mortem examination.

Special Prepaid Advertisements.

Situations, Publications, Bee Plants, &c. — Up to Twelve words, Sixpence; for every additional Three words or under, One Penny.

SWARMS reduced to from 7s. 6d. to 10s. E. MIDDLEMASS, Stamford. M 40

WANTED, EXTRACTOR, cheap for cash. Windsor preferred. MORRIS, Gas Works, Craven Arms.

SWARMS, 10s.; Queens, 3s., packed free. Few Stocks, 20s. WOOD & TAYLOR, Apiary, Hathersage, Sheffield.

FOR SALE, Neighbours' and other HIVES, Section Crates, Frames, Feeders, Smoker, &c. very cheap. GEORGE EYRES, Poole, Dorset. M 36

WANTED, several dozens VIRGIN QUEENS (natives only). State price per dozen. Post free. H. WISBY, Whittlesford Mill, Cambs. M 37

WANTED to exchange, Orpington Cockerel and two Hens for good second Swarm. H. CRAWLEY, 250, Canbury Park-road, Kingston-on-Thames. M 43

STOCKS of BEES at 30s., 25s., 20s.; Swarms, 12s. 6d. and 11s. 6d., skeps included. Healthy young Queens. E. PHILPOTT, 18, Bedford-road, Hitchin, Herts. M 34

NOTICE.—Berks and Bucks Bee-keepers can obtain the NEW "WEED" FOUNDATION at WEBB & BRUNSDON'S, The Apiary, Belmont-road, Maidenhead. Send for a Catalogue. M 38

FOUL BROOD.—FORMIC ACID still holds its own as the best preventive and remedy for this disastrous disease. Specially prepared for bee-keepers by ERNEST C. CRIPPS, Chemist, Berkhamsted, in bottles 9d. and 1s. 3d. post free. Full directions.

HONEY.—New Honey in bulk 6d. per lb. Carriage paid on 1 cwt. and over. Hives, Section-Crates, Rapid Feeders made to order. Terms cash with order. OWEN BROWNING, Kings Somborne, Stockbridge, Hants. M 41

STRONG NATURAL SWARMS, 27th May, with Comb and Honey, in new straw skeps, 10s. 6d.; skeps, 1s. 6d. extra; one stock in ditto, 15s. 6d. Guaranteed never had foul brood in Apiary. WOODS, Normandy, Guildford. M 39

FOR SALE.—Glazed SECTIONS, 9s. per doz., unglazed, 8s. per doz. Extracted, in bottles, 9s. 6d. per doz.; smaller lots 10d. each; 30-lb. tins 9d. per lb. Tins and bottles extra. Carriage forward. Apply, DAVIES, Park House, Wallingford. M 42

STOCKS, Nuclei, Swarms, and Queens.—Address, Rev. C. BRERETON, Pulborough, Sussex.

GOOD SWARMS, superior Bees, packed free, price 15s. JOHN WALTON, Honey Cott, Weston, Leamington. M 35

PURE IMPORTED ITALIAN QUEENS 7s. each. Cash with order. J. S. GREENHILL, 80, Graham-road, Wimbledon.

SPLENDID NEW HONEY, one 56 lb. tin, 6d. lb. 5 dozen sections, 9s. dozen. CRAM, Chorleywood, Rickmansworth, Herts. M 26

FOR SALE, strong SWARMS from Healthy Hives, packed in new straw skeps, 12s. 6d. each, packing free. LINSTEAD, Garboldisham, Thetford. M 25

WANTED.—New SECTIONS, first quality, prompt cash. Also Beeswax and extracted Honey. Manager, Southdown Apiaries, Bexhill, Sussex. 197

LACE PAPER for GLAZING SECTIONS. 100 strips, 7d., 200, 1s. 2d., 300, 1s. 6d., 500, 2s. 3d., 1,000, 4s. Post free. Best quality. Neat patterns. W. WOODLEY, Beedon, Newbury.

Prepaid Advertisements *(Continued)*

WANTED, SECTIONS, EXTRACTED HONEY, and WAX. Packages lent free to Bee-keepers and Associations. Prompt cash. State lowest price. Address Rev. W. HANDCOCK, Hampton Hill, Middlesex. M 15

ENGLISH BEES, Swarms, 12s. 6d. and 15s., or 3s. per lb., free on rail; Fertile Queens, 4s. 6d.; Virgins, 3s. post free. ROBT. NESS, Certified Expert B.B.K.A., Sproxton Park Apiary, Helmsley, Yorks. M 1

BEES, Guaranteed Healthy and safe arrival, 4 lb. Swarms 11s. 6d. each. Packing and box free. Beautiful new Honey in 30 lb. tins, 7d. per lb. Tins free. A. TWINN, Apiary House, Ridgwell, Halstead, Essex. M 33

"HONEY AND ITS USES," 1½d.; 3s. 6d. per 100. Also "MEAD, AND HOW TO MAKE IT," and "VINEGAR FROM HONEY," each 2½d. Small sample bottle of Honey Vinegar, 7½d. Rev. GERARD W. BANCKS, The Green, Dartford.

RELIABLE QUEENS of 1896, Natives and Hybrids (Ligurian and English). Prolific laying Queens, 5s. 6d.; Virgin Queens, 3s. Sent post free in my introducing cage. Safe arrival guaranteed. Orders filled in rotation. HENRY W. BRICE, The Apiary, Thornton Heath.

LEAFLETS BY MOST ADVANCED SCIENTISTS.

HONEY AS FOOD.

By the distribution of these Leaflets better prices can be obtained by Bee-keepers, and any amount of first-class Honey can be disposed of.

Send P.O. value 1s. for packets of Leaflets, &c.

CARBOLINE POMADE
(FIFTH SEASON).

Kills Bee-stings like magic.

CARBOLINE POMADE
Prevents the horrible smarting and burning inflammation.

CARBOLINE POMADE
Prevents getting stung, robbing, &c.

CARBOLINE POMADE
1s. per bottle, post free. T. HOLLIDAY, ASTBURY, CONGLETON.

SWARMING SEASON, 1896.

Why Bee-keepers use the Patent Hinge Plate SELF-HIVER!

Because it is the only one in the WORLD that has been PROVED and found to be a Success!!

Send post-card for Leaflet to G. W. HOLE, Patcham Sussex.

KENT BEE-KEEPERS' ASSOCIATION.

SPECIAL NOTICE.

SHOW

AT

RAMSGATE.

July 1st and 2nd, 1896.

BEES, HONEY, HIVES, & APPLIANCES.

LIBERAL PRIZES.

TIME EXTENDED FOR CLOSING ENTRIES TO JUNE 24th.

Schedules and Entry Forms from HENRY W. BRICE, Hon. Secy. Kent B.K.A., The Apiary, Thornton Heath.

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION.

The monthly meeting of the Council was held at 105, Jermyn-street, W., on Friday, June 12. In the unavoidable absence of Mr. Cowan the chair was occupied by the Hon. and Rev. Henry Bligh. There were also present Messrs. R. T. Andrews, W. Broughton Carr, W. O. B. Glennie, W. H. Harris, J. M. Hooker, Henry Jonas, J. H. New, T. J. Weston, and the Secretary (Edwin H. Young).

The minutes of the previous meeting were read and confirmed.

Eight new members were elected, as under :—

Miss E. E. Egginton, 83, Crescent-road, Reading.

Mr. William Handby, Hasland, near Chesterfield.

Dr. B. E. Jones, The Apiary, Freckleton, near Kirkham, Lancashire.

Mr. Rees Jones, Glan-y-Mor, Barmouth.

Mr. Wm. McHardy, Belsay Hall, Newcastle-on-Tyne.

Mr. Arthur J. Moffatt, 1, Leazes-terrace, Hexham.

Mr. Edwd. M. Worsfold, 1, Reasney-villas, River, Dover.

Yorkshire Bee-keepers' Association ; secretary, Mr. R. A. Grimshaw, Highfield, Ladypit-lane, Leeds.

The report of the Finance Committee recommending payment of various accounts, was presented by Mr. Jonas, and adopted by the Council.

In presenting the Education Committee's report, the Hon. and Rev. Henry Bligh stated that since the last meeting the awards of the examiners of candidates for first-class expert certificates, at the examination held on May 8, had been received, and were in favour of certificates being granted to—Rev. Geo. Jarvis, Stonehouse, Gloucestershire ; Dr. B. E. Jones, Freckleton, Kirkham ; Dr. Percy Sharp, Brant Broughton, Newark ; and Mr. L. H. Smith, Elstow, Bedford.

A third-class certificate had been awarded to Mr. T. J. Weston, Wickham Lodge, Great Totham, Essex, at an examination held during the Bath and West of England Agricultural Society's show at St. Albans. On behalf of the committee, Mr. Cowan had been testing the capabilities of some four or five candidates in the county of Cornwall, the result of which would be duly reported at the next meeting. In addition to this work, the committee had arranged for an examination, in connection with the "Royal" show at Leicester on June 23, for which entries had been received from nine candidates ; and, in response to appeals from affiliated county associations, the committee had nominated gentlemen to act as judges at various provincial shows. The report of the committee was approved.

Mr. Carr reported that the Foul-Brood Sub-Committee had brought before them certain recommendations of the Board of Agriculture in regard to the form of the "Draft Bill for the Better Prevention of Bee Pest," which alterations would somewhat curtail the powers proposed to be conferred upon authorised bee-experts under the Act, giving instead power to the local authority to make by-laws regulating the movement, disinfection or destruction of any infected stock or colony of bees, product of bees, or appliance used for bees, the payment of compensation in cases of destruction, and prescribing the form and mode of service or delivery of notices and other instruments. The suggestions had met with the approval of the Committee, and on the motion of Mr. Harris, seconded by Mr. Hooker, the report was adopted.

ROYAL AGRICULTURAL SOCIETY.

THE LEICESTER MEETING.

Writing from the show-yard at the close of the first day of the show we are enabled to give the list of awards in the bee and honey department of the above important exhibition, and to state briefly that the meeting promises to be in every way a most successful one.

Leicester people rather proudly declare that if the weather keep fine it will in some respects be a record gathering. Whether or not this forecast be realised it is admitted that a good start has been made, for more entirely favourable conditions could scarcely be imagined. The weather is magnificent and there is every promise of its continuance. The entries are numerous, and, although the site chosen for the show is not too roomy, it is within easy walking distance of the station, and is thus accessible without the usual struggle for places on the inevitable waggonette.

Reserving fuller details for our next issue, and to come at once to the section of the show with which bee-keepers have most to do, we find the total entries numbered 185. The details being as follows :—*Collection of bee appliances*, 4. *Observatory hives*, 6. *Hives*, 21. *Honey extractors*, 8. *New inventions in bee appliances*, 11. *Interesting exhibits connected with bee-keeping*, 4. In the various honey classes the entries were : —*Honey of this year, sections*, 44. *Extracted honey*, 34. *Shallow frames for extracting*, 11. *Honey of any year, sections*, 6. *Granulated extracted*, 23. And *beeswax*, 5.

From various causes there were some exhibits not staged, but the season has been sufficiently favourable to make up a very fair display. It is always a matter for regret

to bee-keepers that the premier show of the kingdom should be held at a date altogether too early in the honey season for the bees to do themselves justice. This year, however, some districts have yielded not only early and well, but honey of excellent quality has been stored.

Messrs. W. Broughton Carr, J. M. Hooker, F. J. Cribb, and R. A. Grimshaw, undertook the duties of judging; the two first-named taking the hive and appliance classes, while Messrs. Cribb and Grimshaw awarded the prizes for honey, excepting the classes for honey trophies and extracted honey of the present year, these being adjudicated upon by all four judges, as was the class for collections of bee-appliances.

The following awards were made :—

HIVES AND APPLIANCES.

Collection of Hives and Appliances.—1st, W. P. Meadows, Syston, near Leicester; 2nd, C. Redshaw, South Wigston, Leicester; 3rd, W. P. Meadows.

Observatory Hive.—1st, H. Hill, Ambaston, Derby; 2nd, R. Brown, Somersham.

Best Frame-Hive.—1st, Jas. Lee & Son, High Holborn, W.C.; 2nd, W. P. Meadows; 3rd, C. Redshaw; 2 h.c., C. Redshaw; c. W. P. Meadows.

Best Frame-Hive for Cottagers' Use.—1st, Jas. Lee & Son; 2nd, C. Redshaw; 3rd, C. Redshaw; h.c., W. P. Meadows; c. C. Redshaw.

Honey Extractors.—1st, W. P. Meadows; 2nd, W. P. Meadows; h.c., W. P. Meadows.

Interesting Exhibit connected with Bee-culture.—Silver medal, Miss H. B. Dawe, Long Ashton, near Bristol, for collection of articles in which honey is largely used; h.c., Rev. G. C. Bancks, for honey vinegar.

New Inventions connected with Bee-keeping.—Certificates to W. Dixon, Leeds, for new doorway for hives; T. Lanaway & Son, Redhill, Surrey; W. P. Meadows, for new wax-extractor and for improved cottagers' honey ripener.

HONEY.

Twelve 1-lb. Sections.—1st, J. Stone, Cubley, Sudbury; 2nd, W. H. Woods, Hemingford Grey, Hunts; 3rd, E. C. White, Salisbury; h.c., W. Woodley; c., R. Brown.

Six 1-lb. Sections.—1st, J. Stone; 2nd, W. Woodley; 3rd, W. H. Woods; h.c., R. Brown; c., H. W. Seymour, Henley-on-Thames.

12 *lb. Extracted Honey.*—1st, E. Cooper, Leicester; 2nd, J. W. Painter, Reading; 3rd, H. W. Seymour; h.c., Albert Twine, Halstead; Thos. Walker, jun., Howden, and W. H. Woods.

12 *1-lb Sections of any Year other than 1896.*—1st, W. Woodley; 2nd, A. Twine.

3 *Shallow-frames for Extracting.* — 1st, A. W. Weatherhogg, Lincoln; 2nd, D. H. Durant, Acton; 3rd, R. Brown; h.c., Geo. Wells, Aylesford.

12 *lb. Granulated Honey.*—1st, R. Brown; 2nd, E. C. R. White; 3rd, D. H. Durrant; h.c., W. Woodley; c., J. H. Wootton, Hereford.

Honey Trophy.—1st, W. P. Meadows; 2nd, J. Waterfield, Kibworth; 3rd, Miss S. Cooper.

Beeswax.—1st, R. Brown.

OUR LIBRARY TABLE.

Amongst the number of foreign books about bees there is one that has reached us which deserves more than a passing notice—it is "*L'Abeille et la Ruche*," or Langstroth's "Honey Bee" translated into French. This is the second edition of a work that appeared in 1890, and it has been thoroughly revised and brought up to the knowledge of the present day. Langstroth's work is well known as a standard one on the subject of which it treats. It was revised under the able hands of Mr. C. Dadant, and when we add that it was also translated by this gentleman in conjunction with Mr. Ed. Bertrand (who also edits the French edition), this should be a sufficient guarantee of the value of the book, which consists of about 600 pages, divided into twenty-two chapters, and containing 183 illustrations. The natural history of the bee is treated in a way which gives the reader a general idea of the anatomy and physiology, while the practical part of bee-keeping is very thoroughly explained. This is as we should expect from two such advanced bee-keepers as Messrs. Dadant and Bertrand. There is to us a special value in this French edition, because Mr. Bertrand has, in slightly altering the American text—and by introducing methods employed in Europe—adapted the book to the requirements of European bee-keepers, whose methods, though equal to those of the Americans, in some respects differ considerably from them. The present edition is beautifully got up and printed, and interspersed amongst its pages are portraits of some of the leading bee-keepers of the world. We congratulate Messrs. Dadant & Bertrand on the production of this splendid work. We recommend all who are conversant with the French language to become possessed of a copy.

YORKSHIRE, EAST RIDING B.K.A.

AN AFTERNOON AMONG THE BEES.

About sixty members of this Association, through the kind invitation of the president, the Rev. R. M. Lamb, met at the Rectory, Burton Pidsea, on Saturday, May 30 last, for the purpose of witnessing some practical demonstrations with bees and bee appliances. The weather was everything that could be desired, and Mr. Lamb's apiary in the pink of condition. Bee-driving was successfully

accomplished, and the various new appliances connected with bee culture were exhibited and the varied improvements pointed out. The visitors were subsequently entertained at a substantial tea in the schoolroom, and a hearty vote of thanks was accorded to the President for his generous hospitality and valuable instruction. The President, in reply, expressed his pleasure at seeing so many bee-keepers present, and referred to the kind and generous way he had been treated in visiting bee-centres in the different parts of the Riding. In lecturing it was unfortunate he could not take many appliances with him, but he hoped the time was near when the Association would possess a bee-van for this purpose. The Secretary (Mr. E. Boardman, Welton, Brough), spoke of the advantages of such Associations, and of the great help the members received by regularly taking the BEE-KEEPERS' JOURNAL or *Record*. At the conclusion of the proceedings the company were photographed in the rectory grounds.—*Communicated.*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

NOTES BY THE WAY.

[2539.] The past fortnight has not been quite ideal bee weather by any means, the scythe and mowing-machines having cut the main crop of our bee-forage, causing the apiary to assume a much quieter condition than of late, but the splendid rains we have recently had has revived some of the clover plants, and fields bare of flowers ten days ago begin to show many buds of promise for the future, so that hope may still be entertained of some further income. Then we have the limes still to come, which in this part rarely bloom before the first week in July. This season there was a promise of an earlier blossoming period, but I find that the buds have not opened yet, so that with the present cool temperature we shall not get the flow of honey from them until about the accustomed time. The bees are bringing in a little honey, I think from the tares or vetches, and the bramble, which is just coming into bloom.

Super Clearers.—I think a word may not be out of place just now about these appliances. They are one of the greatest aids to "Pleasurable Bee-keeping" that has been invented during the past decade. When they are being placed on a hive, don't forget to see that the springs are free, so that the bees can pass easily. If they have been in use two or three years, possibly the springs may be propolised, so much so that they have not free action, and this will prevent the bees passing. Should this be so, remove the clearer and see that the escape is in working order. If not, pour some boiling water through it; this will remove any wax or propolis and make it as good as ever.

Care in Storing Honey.—After removal from the hives, take the sections from the racks and carefully remove every particle of propolis and brace combs that may be attached to any part, and replace them in the racks without the dividers, first laying a piece of paper over the bottom of the rack. Always stand the sections of comb honey in the same position as they are worked. Store in a cupboard or box in a dry, warm place. I have a few sections of 1895 equal to those taken from the hives to-day, June 22.

Some bee-keepers lack room in which to store their honey, and consequently are glad to sell their stock off quickly. To such I commend the remarks in last week's "Editorial Hints" *re* the short crop of sections this season. This should enable us to hold out for a fair price (high prices are things of the past), and I trust every producer of comb honey will stand out for a fair price for the best quality sections. Those who only get dark and inferior ones cannot expect to receive so much as their brother bee-keepers in good honey districts.

The Berkshire bee-van is in our parish to-day, so I must perforce cut these notes rather shorter than usual, as I want to go to Oakhouse Farm to glean a little bee knowledge, and secure, if possible, a wrinkle or two on bees and their management.—W. WOODLEY, *Beedon, Newbury.*

PACKING SECTIONS.

A SEASONABLE HINT.

[2540.]—I enclose a sample of my method of packing sections of honey which, though it has been most extensively used in Ireland on my recommendation for the past six years, will, I think, be a novelty to most of your readers.

The improvement consists in wrapping each section separately in a sheet of waxed paper (*i.e.*, tissue paper prepared with wax to make it transparent, waterproof, and air tight). Nearly everyone has experienced the annoyance caused by the honey which flows from one broken section soiling nearly all the others in the same case.

Glazing each section is too expensive and heavy for general use, and wrapping each in stout paper retards examination, though both these prevent the trouble.

A section wrapped in the waxed paper keeps perfectly clean. It can be examined sufficiently to absolutely ascertain its quality without unwrapping, and if one or more sections break or "weep," the damage is confined entirely to the broken sections.

Being excluded from air, sections also are less likely to weep or candy.

If the sections are packed in a box immediately after they are papered it is not necessary to fasten the paper, but to facilitate subsequent handling it is often advisable to do so.

Gum, glue, or paste will not hold well to the waxed paper, but this offers no impediment to the bee-keeper. A small chip of wax (as big as a pin's head or smaller) introduced into the folds and well pressed with a hard substance (a thimble is the handiest), fastens it instantly, or a piece of wax may be used in the same way as sealing-wax is used; but the best method of all is to take equal parts of wax and rosin, keep them heated, say, in a patty-pan over a night-light, and apply as required with a thin slip of wood, one about half as thick as a lucifer match.

Owing to the great convenience a section so packed is to a grocer or retailer, I always find that I can readily get 6d. per dozen more for such sections than for the same quality unwrapped.

I will be very pleased to give any particulars on receipt of post-card, or if it may save time and trouble if you will allow me to say I can supply the papers, post free, at 6d- per 100 ; 4s. per 1000.—Jas. A. Abbott (Abbott Bros.), 23, *Merchant's Quay, Dublin, June* 18.

[The method of packing (judging from sample sent) seems so likely to be of general service to bee-keepers, that we have no hesitation in giving room to Mr. Abbott to quote price, as above, outside our advertisement columns.—Ed.]

BEE STINGS.

[2541.] Referring to Messrs. Kettlewell and Oldfield's letters in last week's Journal, I am compelled to say that even yet I do not believe it is possible to *cure* a sting, once the poison has been inserted. I have spoken to several of my friends during the week and find that each has his own alleged cure, some being most ludicrous. I cannot find out, however, how these cures are supposed to work. Does Mr. Kettlewell claim that the "moist earth" positively gains access to the tissues in which the poison is lodged and neutralises its effect. If so, I can at once put him right on that point.

Nothing but a hypodermic injection can get beneath the surface of the skin, and he has already had one of poison. Is he prepared to have one equally painful of "cure."

I repeat that outside application as a *cure* for bee stings is about as proportionately efficacious as outside applications are on a snake bite, which we are given to understand are of not the slightest use, seeing that the blood, and with it the poison, are circulated through the whole of the body in about nine pulsations of the heart.

My own idea is, if any cure is needed, a saline drink is about as useful as anything, as it supplies those chemical principles which are antagonistic to most blood poisonings.

Perhaps Mr. Cowan will favour us with his opinion on this subject.—S. E. Grimshaw.

EASTBOURNE SHOW.

[2542.] Sussex bee-keepers were very backward in supporting Eastbourne Show with exhibits of honey; but nevertheless a great many Sussex bee-keepers came to the show. Most of the honey came from Kent, and some from Wilts. The local buyers took all that was there. A good many Sussex bee-keepers are joining the Kent Association, and there is no reason why the two counties should not join hands and work together, the same as Lancashire and Cheshire.—T., *June* 19.

Echoes from the Hives.

Chichester, Sussex, June 18.—Hawthorn bloom is now over, from which during the dry weather a quantity of good honey has been gathered, some stocks having filled supers from this source (Apiarist, Fairspeir—2533, p. 244—please note). A good downpour of rain just in time to arouse the clover into bloom. All that is required now for a good honey yield is fine, warm weather for the remainder of the clover and the limes, which close the season in this district for 1896, excepting blackberry.—John Daniels.

Queries and Replies.

[1489.] *Swarming from "Wells" hive.*—May I trouble you to inform me if the enclosed are three young queens? I have a "Wells" hive, one compartment of which has swarmed *twice* and the other *three times*, but which end is responsible for the third swarm I do not know. "Piping" went on vigorously up to Saturday, the 13th inst., and on the following day a third swarm issued. On Monday I found the enclosed dead queens immediately in front of No. 2 end, and the "piping" has now ceased. I wish to ask if it is probable either end may now be queenless? seeing the enclosed were found dead in front of No. 2. Is it probable a queen from No. 1, when out mating, has mistaken her entrance, and got into No. 2 on her return and been killed? I examined No. 2 to-day, but could not find a queen ; but may have missed her,

as the bees were still very numerous, and plenty of drones present. I counted at least four empty queen-cells.—NOVICE, *Westmoreland, June* 16.

REPLY.—All three queens sent are young ones. There are no means of ensuring the presence of queens after swarming other than examining for either the queen or for brood and eggs. In the same way only examination will decide as to queenlessness in the two compartments of the hive.

[1490.] *Chilled Brood in Nuclei.*—I have been making some nucleus swarms, and have got some chilled brood in consequence. 1. Do you recommend removal of the dead brood if the bees don't do so themselves? Some of it has turned quite black since last Friday. There were too few bees left in the nucleus, I suppose, they having returned to parent hive. I made the swarm on Friday afternoon, the 12th inst., and on looking at them two days afterward found a lot of brood chilled, some of which had turned almost black. 2. I think the discoloured chilled brood has not become foul brood, has it? I took one frame of sealed brood away from the nucleus lot, and gave back to the parent stock, when I found there were too few bees. I also shook the young bees from two frames from the parent hive into the nucleus lot to strengthen them. 3. Was this right?—L. T. BADCOCK, *Bexhill-on-Sea, June* 17.

REPLY.—1. We should melt down for wax all combs containing black chilled brood. 2. Chilled brood cannot become foul brood unless the germs or spores of *bacillus alvei* are in the combs or are carried there by the bees. 3. Yes, so far as it went the action was quite right, but the successful management of nuclei requires not only care, but a thorough understanding of the requirements of the case, and this, we fear, our correspondent lacks, or he would not term his action "making nucleus swarms," which is quite a different thing to forming nuclei by dividing a colony into two or more parts.

[1491.] *Bees Refusing to Enter Sections. Increasing Stocks.*—I have two stocks which were fairly strong this spring. So I doubled No. 1 hive, taking five combs of brood from No. 2, replacing them with full sheets of foundation, which have since been drawn out and well filled with brood and stores. I have taken out two frames filled with honey, leaving ten frames. The hive is now full of bees, brood, and stores, but I can't get bees in the sections. 1. Why is this? There are seven or eight queen-cells started, but do not appear to have been touched this last week. Bees in this hive have been killing drones for the last two or three weeks. 2. What is the cause of killing them so early? No. 2 is also very strong. It has now nine standard frames of foundation (which bees are drawing out) above, and separated from brood-chamber by excluder zinc, and nine frames well filled with honey, raised above to allow of the second surplus-box being added. 3. I wish to increase to four stocks if possible. How and when will be best to do so?—NOVICE, *Hendon.*

REPLY.—1. Either you have failed to make the section rack sufficiently cozy—by warm packing—to induce the bees to take possession, or honey is not coming in very plentifully. 2. It points in the direction of bees' disinclination to prepare for swarming. 3. Divide each stock in two parts when honey begins to fail, taking care to leave eggs and brood in such combs as are left queenless.

[1492.] *Uniting Driven Bees.*—1. As I shall have several more stocks of driven bees than frame-hives to put them in about the last week in July, would it be possible to hive two lots together in a skep and feed with syrup through bung-hole? 2. Are combs made from wax formed by feeding the driven bees on syrup too brittle to be effective in use? 3. Could a cast from skep be hived in skep, and (say two or three days after, when combs had been started) be gently lifted on to parent skep as super with beneficial results?—WEME, *Cambridge.*

REPLY.—1. It is always better to join up two (and sometimes three) lots of driven bees in forming new colonies for wintering. 2. If driven bees are hived at end of July, and fed liberally on syrup, perfectly effective combs will be built from syrup so far as strength of material; but driven bees should, if possible, have full sheets of foundation given them in re-combing their hives. 3. If a cast is separately hived for so long as three days there is some risk of the bees being treated as aliens by the parent stock. Nor do we see much advantage over the plan of returning the cast in the ordinary way, because the chances of surplus honey from swarmed hives is but small.

[1493.] *Foul Brood in Skep.*—I have forwarded a piece of comb taken out of a straw skep, and shall be greatly obliged for your opinion on the same. I bought the skep and bees, and had a new frame-hive made, fitted with comb foundation, in which it was intended to put them. An expert offered to transfer the bees. As soon as he saw them he told me they would be of no use to me, and advised the step I have taken in sending the comb to you. I may say the skep, combs, and bees were destroyed by fire. A report from you will be satisfactory to myself and the person I got the bees from.—J. R., *Grimsby, June* 19.

REPLY.—Though not in an advanced stage of the disease, foul brood is certainly developing in comb sent. Under the circumstances, therefore, you took the wisest course in destroying skep and contents.

[1494.] *Stocking a "Wells" Hive.*—I have three stocks of bees in skeps, one stock in

frame-hive (all very strong), one swarm (May) in frame-hive, one swarm (May) in skep, and an empty "Wells" hive—lately purchased—which I wish to get filled. Will you kindly advise me how to manage this from material at hand?—ASPIRANT.

REPLY.—The simplest way of furnishing the "Wells" hive is to gradually bring the two stocks in frame-hives within three or four feet of each other. This must be done by moving a yard or so on each fine day. When near enough, set the "Wells" hive so that its two entrances will occupy nearly the same position as those of the two frame-hives brought near together, and lift out the frames from the latter into the "Wells."

[1495.] *Bees and Arsenic Fumes.*—The two pieces of comb sent have been taken from two hives belonging to a person who started bee-keeping three years ago. He has obtained comparatively little or no honey, although the hives are of good strength and plenty of store. I have come to the conclusion that the arsenic fumes which emanate from the works about a mile away is the cause of the death of large numbers of the bees which are found in the vicinity of the hives. Could you oblige us with an opinion on the matter? Also, I observe here and there a cell of foul brood—am I correct? The few bees sent in the small box are some of the freshest I picked up amongst the number dead around the hives. Have you any means of detecting the cause of their death?—J. BROWN, *Cornwall, June* 17.

REPLY.—There is nothing in bees sent to account for death, and they are too dried up for microscopical examination. We think, moreover, that it is more than probable that the mischief arises from the proximity of the works referred to. There is no foul brood in comb sent.

[1496.] *Portugal Laurel as a Honey Plant.*—We have a great quantity of Portugal laurels on our grounds round the house, and they are out in full bloom now. I believe the honey secreted is said to be poisonous. 1. Is this really so? and to what extent does it injure bees? 2. Has the honey a disagreeable taste to render it unsaleable?—R. HAMLYN HARRIS, *Hamlyn, near Bristol, June* 16.

REPLY.—1. It is quite a fiction to classify laurel honey as poisonous; nor will it injure bees. 2. We do not know what the flavour would be if only Portugal laurels were the source from which the nectar was gathered, but as grown in this country it only imparts a sort of nutty or almond flavour, which to some persons is not at all disagreeable.

[1497.] *Queenless Colony and Foul Brood.*—I had a stock of bees which seemed to be going on well up to last month. I examined the hives, and found a good number of bees, but little brood. As they did not come on very well I yesterday overhauled them, and soon found *foul brood* (there was no queen). They were on eight frames, six of which were affected slightly. The two front frames were sound, with no brood but a little honey, which I extracted. I brushed all the bees off into a skep, and after extracting the honey from the two good frames I burnt the whole lot—later on, when the bees had settled in the skep, I then *destroyed them*, and brushed the hive out with carbolic. Can you tell me: (1) If the hive contained a fertile worker, as the brood was scattered very irregularly over the combs. (2) Did I do right in destroying them? Was this the best course to pursue? (3) Is the honey all right? It is of good colour and flavour.—W. P., *Ticehurst.*

REPLY.—1. Without examining the brood to ascertain whether it was worker or drone we cannot say. 2. You clearly did quite right in destroying same. 3. Yes. The honey is good for household purposes, but should not be fed back to bees.

[1498.] *Wax Extractors and Carbolic Cloth.*—Will you kindly say:—1. Are the wax extractors as offered by dealers really efficient and useful machines? 2. Is it safe to use a cloth soaked with carbolic acid on a clean hive after having been used on an affected one?—EAST COASTER.

REPLY.—1. The appliances in question are both useful and efficient. 2. Probably no harm would ensue; but we should keep all appliances that come in contact with affected stocks distinct and apart from those used in connection with healthy ones.

SEASONABLE QUESTIONS.

ANSWERED BY G. M. DOOLITTLE.

SECURING THE BUILDING OF WORKER-COMBS.

Question.—How can I secure worker-comb in frames without giving frames filled with foundation? In taking out combs and inserting frames having only a starter, I find the bees invariably build drone-comb. I also find that swarms hived on frames fitted with starters only often fill whole frames with drone-comb. How can we secure extra frames of worker-comb without using full sheets of foundation?

Answer.—In this question we have a sample of the puzzling things which confront us in bee-keeping, and one which every bee-keeper is sure to run against, even though he inserts only a few frames in a hive which are not filled full of foundation. I have found from twenty-five years' experience, that it is folly to insert a frame, having only a starter in it, into a full colony previous to the swarming of that colony, with the hope of getting as much as one square inch of worker-comb; and if frames must be inserted in such colonies, at such times, it will pay the apiarist to purchase comb-foundation for each frame, even though

he has to pay as high as a dollar a pound for it, rather than try to get them filled with worker comb by the bees.

But if we have extra combs on hand to put in the place of those taken out then we are all right, and even better off than to put in foundation, had we a storehouse full of the same. So we come to the main question : "How shall we secure *extra* frames of worker-comb without using foundation?" There are three conditions under which, if rightly managed, the bees will almost invariably build worker-comb. The first, and surest of the three, is when a colony is very weak, or what we term a nucleus. If such a colony is deprived of all its combs save one of honey and one of brood, and a frame with a starter in it is inserted between the two combs left in the hive, the bees will, ninety-nine times out of a hundred, fill that frame with worker comb, the said comb being as perfect as one built from foundation under the most favourable circumstances. Now, in all cases of uniting bees in June in order that two moderately weak colonies may make one strong one for the production of comb-honey, I am always on the look-out for these extra combs, for this is just the time to have them built. In fact, whenever I have any weak colonies in June or July, or whenever I have any very strong nuclei in my queen-rearing, I always have an eye to this matter ; and in this way secure many extra combs of the most perfect kind, to be used in years to come.

The second is at the time of hiving new swarms, which, when I wish them to build worker-combs, are treated in this way. The swarm is hived on the full number of frames the hive contains, and left for thirty-six to forty-eight hours, the surplus-apartment generally being put on when the swarm is hived. The hive is now opened, and five of the frames which have perfect worker-combs started in them are allowed to remain, the rest being taken away, and dummies used to take the place of them.

This throws the force of bees not needed below into the sections, and gives a place in the sections for storing all the honey brought in from the fields, so that the bees do not need to build any store-comb in the brood-nest, which store-comb, when built for that purpose, is generally of the drone size. By this time the queen is ready to keep pace with the bees in their comb-building, with her eggs, and thus nine times out of ten I get these five frames filled with worker-comb, besides securing a good yield of section honey. This is very similar to the way W. Z. Hutchinson works to the same end, and, if I am not mistaken, he agrees with me that combs so built are a clear gain to the apiarist. When a swarm having an old or laying queen is first hived, some of the combs started are liable to be of the drone size, because of the queen's not being in a condition to deposit eggs in the cells at first, as all queens cease almost entirely to lay for twenty-four hours previous to swarming, in order that they may be reduced in weight and so be able to fly and accompany the swarm; nor does full prolificness return under forty-eight hours after the swarm has commenced keeping house in its new home. As these combs having drone size of cells are just right for store combs, the bees generally keep right on with that size of cells till the bottom of the hive is reached.

There is occasionally a swarm that seems determined to rear drones, and in this case they will build some drone-comb, no matter if they have all the room for storage necessary in the sections. Where, from appearances, I think drones are desired, I insert an old drone-comb at one side of the hive, in addition to the five frames started with worker-comb ; this satisfies their desire for drones, and I secure what I am after, viz., five frames of worker-comb. The frame of drone-comb is taken away at the end of ten days, or left, as suits me best. When the five frames are filled with worker-comb, I fill out the hive with extra worker-combs or frames filled with foundation, as I may elect, and thus have that hive filled with worker-comb.

The third condition under which worker-comb will be built is just after the young queen begins laying in a colony which has previously cast a swarm. If, after she has been laying a day or two, we take away two or three combs, and put frames with starters in their places, we shall find that said frames will be mainly filled with worker-comb. For it sometimes happens that the bees will prefer to leave off storing in the sections, and build store-comb in the frames. The bees are also more likely to build worker-comb on a fall yield of honey than they are in the spring ; but I have never had anything really satisfactory along this line, save under the three conditions which I have given, and have spoken of them in the order of their worth, as I consider it.—*Gleanings.*

LONG-TONGUED BEES.

THE LARGE FOUNDATION WITH CELLS FOUR AND A HALF TO THE INCH.

For some time the French have been experimenting in the direction of having bees with longer tongues, and for a good while I was under the impression that it was merely by trying to breed constantly from the bees with longest tongues that the object was to be gained—a mistake that may be excused on my part, because the same mistake was made among French bee-keepers themselves. Instead of that, the plan is to try to raise bees with longer tongues, not by merely stretching the tongues, but by increasing the size of the bee throughout, trusting that, as the size of the bee increases, the size of the tongue will increase in proportion.

The increase of size is sought to be gained by using foundation with the cells larger than the normal size, and the largest bees are selected to breed from, the glossometer being used to measure the tongues so as to make the selection. M. Legros has made a notable advance in the matter, the glossometer of his invention being one of the best; but he disclaims the idea that his gain in the size of bees, and consequently in the length of tongues, is by means of the glossometer alone. That's merely used as a test in making selections, the gain in size being made by using larger-sized cells.

If A. I. Root was ahead of the times in seeking years ago to increase the size of bees by means of larger cells, he made the mistake of making too violent a break in the matter. The better plan seems to be to increase the cells gradually. At any rate, I see in *Le Progrès Apicole* for January that M. Mees is to have foundation-machines to turn out foundation with cells of three different sizes—26·5, 25·8, and 24·2 cells to the inch. It will be remembered that the normal size is about 28 to the inch.

One would hardly think, however, that it was necessary to go so gradually in the matter. On the surface it would seem that all that's necessary is to use the largest size that will satisfy the bees, and not be used too largely for rearing drones. Although they may occasionally rear workers in drone-cells, they don't appear to like too much drone comb. As an experiment I once gave a colony pretty much all drone comb. They showed their disapproval by swarming out. I think the compromise foundation by A. I. Root was somewhere in the neighbourhood of 23 to the inch. Possibly 24 to the inch might satisfy the bees to commence on. However, those Frenchmen probably know a good deal better what they're about than I do.

It may be remembered that Dr. J. P. Murdock succeeded in getting bees of unusual size. If the attempt is to be made to breed for size it would be a great gain to have his strain of bees to commence with. He sent me some of the bees, and also samples of comb about which there could be no question. Without taking time to hunt up the report I made about it in *Gleanings*, I remember that the cells were about medium between drone and worker size, some of them larger, and a few, I think, just about four to the inch. This comb was, of course, built by the bees without any foundation. I believe he made no mention of having made any gain through larger-sized cells, but mainly through selection of larger drones and some special feeding of the drones while in the larval state. At any rate he made an advance in size that was decisive, and I think it was ahead of anything yet accomplished in France.

It is well known that bees of reduced size can be raised by having the size of cells reduced. That the opposite rule would work doesn't necessarily follow. But the possibility is worth trying for.

The question may be asked, What's the good of bigger bees? I don't know of any except just one thing—they could work on red clover. But it is possible there are other flowers besides red clover that longer tongues could reach.—DR. C. C. MILLER in *Gleanings*.

Bee Shows to Come.

July 1 and 2.—At Ramsgate, in connection with East Kent Agricultural Society's Show. Entries closed.

July 8.—At Redhill. The Surrey Beekeepers' Association in connection with the Borough of Reigate Horticultural Society. Entries close June 30. Apply to C. E. Cuthell, Esq., Chapel Croft, Dorking.

July 15.—Home Park, Windsor. Windsor District Berks B.K.A. show of bees, honey, and appliances, in conjunction with the Prince Consort's Association. Seven open classes with liberal prizes. For schedules apply Mr. W. S. Darby, Consort Villas, Clewer, Berks. Entries close July 8.

July 14 and 15.—At Gainsboro', in connection with the Lincolnshire Agricultural Society. Bees, honey, and bee-appliances. For schedules, apply S. Upton, Secretary, St. Benedict's-square, Lincoln. Entries close June 26.

July 22-23.—At Longton. Staffs B.K.A. in connection with the annual exhibition of the Staffordshire Agricultural Society. Show of bees, honey, and appliances. Sixteen classes and fifty prizes. Entries close June 27. For schedules, apply to Messrs. Smellie & Jones, Newcastle, Staffs.

July 23, North Norfolk B.K.A, *Annual Show* at Melton Constable Park. Entries close July 16. Schedules from C. J. Cooke, hon. sec., Edgefield, Melton Constable.

July 24 and 25.—Bristol, Somerset and South Glos. B.K.A. shows at Knowle. Schedules from Miss Dawe, Hon. Sec., Long Ashton, near Bristol.

July 29.—Henbury.. Entries close July 17 and July 22. Schedules from Miss Dawe, Hon. Sec, Long Ashton, near Bristol.

August 1.—Helsby, Cheshire. Special class for one 1 lb. jar of extracted honey. Entries close July 18. Dr. Briant, secretary, Helsby, by Warrington.

August 3 and 4.—At Delapre Park, Northampton, Northants B.K.A. Annual Show. Eight classes for honey and five "special prize" classes open to all. Entries close July 28. Schedules from R. Hefford, Secretary, Boughton, Northampton.

August 5 and 6.—Chester Horticultural Show and Fête. Exhibition of honey, hives,

and bee-appliances. To be held on the Roodee. Liberal prizes. Schedules from J. Wynne-Ffoulkes, Esq, Crypt-chambers, Chester. Entries close July 23.

August 7.—At Strathpeffer, N.B. Strathpeffer and District Horticultural and Bee-keeping Society. Ninth annual show, which includes bees, hives, and honey. Schedules of prizes from J. H. Bisset, Schoolhouse, Fodderty, Dingwall.

August 15.—South of Scotland B.K.A. annual show at Dumfries. "Burns Centenary" classes open to all-comers. Schedules now ready. Entries close August 8. James Kerr, Secretary, Douglas-terrace, Dumfries.

September 8.—At Moorgreen. Notts B.K.A., in connection with the Greasley, Selston, and Eastwood Agricultural Society. Open class for a 1 lb. bottle of honey. Schedules ready. Apply Geo. Hayes, Mona-st., Beeston, Notts. Entries close August 29.

September 9 and 10.—At Derby. In connection with the annual show of the Derbyshire Agricultural Society. Fifteenth annual show of the D.B.K.A. as above. Liberal prizes for bees, hives, and honey. Six of the eighteen classes are open to all comers. Schedules for bee-section from F. Walker, Cattle Market, Derby.

September 16.—Wotton-under-Edge B.K.A. Annual Show of Honey. In the Church Mill. Schedules from E. W. Read, Hon. Sec., Wotton-under-Edge.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

REV. F. W. TOMS (N. Devon). — *Using Combs of Chilled Brood.*—1. The combs may be used if such cells as contain dead brood are cut out. 2. The only way in which chilled brood can lead to foul brood lies in the fact that larvæ dead from whatever cause forms a very suitable medium for the propagation of *bacillus alvei*. Dead and rotting larvæ will not of itself start the disease but supplies the nutrient matter in which the spores of foul brood vegetate and increase with marvellous rapidity. The title of our monthly is *The Bee-Keepers' Record.*

G. BLAKE, jun.—Comb is affected with foul brood.

"LONDON" (Glastonbury).—1. Both samples are diseased. 2. Overheating on a journey, and consequent death of a large quantity of bee-larvæ in the cells, tends to develop or propagate the disease, but will not of itself originate it in a healthy hive. 3. On no account must a comb of brood from a diseased hive be given to a healthy stock.

J. BAMFORD (Middleton).—*Swarm Smothered in Transit.*—The liability rests, in the first place, on the sender, for if bees were improperly packed suffocation was sure to follow. Unless want of ordinary care can be proved against the railway company, no ground for compensation lies against them as carriers. For ourselves, the very few details given entirely prevent us from forming any opinion at all on the matter. You do not even say whether skep travelled bottom upward or not, or what material was used to confine the bees in the skep.

CHEMICUS (Portsmouth).—*Dead Drone Brood.*—The drone larvæ have evidently been chilled through lack of bees to cover them, caused by depletion of the hive through swarming. The comb, however, is so black and old that it sadly needs renewing.

JOHN MEYNELL (Horsley).—*Transferring.*—Rather than drive the bees from skep and then set it above frame-hive, divided therefrom by excluder-zinc to keep the queen below, omit the driving and the zinc below and let the bees transfer themselves. Otherwise, your plan will do all right.

R. W. L. (Cornwall).—1. Comb sent is slightly affected with foul brood. 2. So far as re-queening your ten to twenty hives, in view of there being disease in your apiary, we should not advise starting queen-rearing at home, but would either secure young queens from driven bees in autumn, or would buy virgins at a cheap rate when they are plentiful.

W. H. ATKINS (Cork). — The fact of one hive out of a total of twenty-six not doing well no doubt indicates something wrong with the stock referred to, but we cannot possibly say what it is without some fuller information. If you can send a piece of sealed brood it might help us, or give us some idea of the state of the brood-nest. It seems either a case of disease or a worn-out queen.

JAS. WALLACE (Cheadle Hulme). — *Dark Honey.*—The sample sent is very dark and poor in colour. It is probably got from horse chestnut, sycamore, and hawthorn, not from limes or strawberry. We rather fear there has been some green fly about the blossom from which the honey came. It would not sell well in sections, nor is the quality good enough to fetch anything but a low price after extracting.

S. M. (Sheffield).—*Brood in Surplus Chambers.*—We should cut the brood out. Some bee-keepers shave off the heads of drone-brood and leave bees to do the rest, but it is a gruesome way of clearing cells.

A LEARNER (Hexham).—See reply to C. E. G. in last issue.

W. NORMAN (Bridport).—*Transferring Bees.* Our correspondent's letter is so indefinite as to what he has done that before we can advise him the "best thing to do" we must ask for further particulars; such as—Where are the queens? In skeps or frame-hive? And how was the transference carried out, &c.

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WANTED, SECTIONS, EXTRACTED HONEY, and WAX. Packages lent free to Bee-keepers and Associations. Prompt cash. State lowest price. Address Rev. W. HANDCOCK, Hampton Hill, Middlesex. M 15

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Editorial, Notices, &c.

TO SCOTTISH BEE-KEEPERS.

MEETING IN GLASGOW.

Referring to the communication on page 263 of this issue [2543], we have just received the following notice of a proposed meeting which explains itself:—

"A meeting of all Scottish bee-keepers interested in reviving the S.B.K.A. will be held at McInnes' Temperance Hotel, Glasgow, on Wednesday, July 8, at 3 p.m. Secretaries of Bee-Keepers' Associations specially invited.—Robert McClelland, secretary *pro tem.*"

We trust that those interested will need no urging to attend the meeting named in such numbers as to demonstrate in no uncertain way their intention to make another and determined effort to re-establish the S.B.K.A. on a firm footing. So far as our correspondent's protest against amalgamation with the British Bee-keepers' Association, he quite misapprehends our view on that subject. Indeed, we may say that so far from desiring "annexation" in the sense implied by Mr. McClelland, the B.B.K.A. has more than cares enough at home for the moderate funds at its disposal without desiring to add to its responsibilities. It may therefore be taken for granted that the most pleasing outcome for all parties will be the resuscitation of the Scottish B.K.A. on sounder lines than before. This is the point we desired to emphasise in our article on the subject in B.J. of June 4.

For the rest, by all means let the revived association be established on as purely independent a basis as the most patriotic Scotchman could wish; but we fear it will be necessary to divest it of the objection to which we referred in the concluding portion of our remarks on page 223 of the issue mentioned. This done, a long step forward will be made in the way of benefiting Scottish bee-keeping, and "British" bee-keepers who have not had the good fortune to be Scotchmen will, we are sure, heartily echo Mr. McClelland's "Scotland Yet"!

THE LATE JOHN HUCKLE.

PROPOSED MEMORIAL.

A circular—of which we print a copy—has been sent to us with a request that we should make its purport known to Mr. Huckle's bee-keeping friends. We gladly accede to the request, and will also be very pleased to take charge of any sums that may be contributed for the purpose. Large subscriptions are not looked for nor expected, but it is hoped that the sum being raised in Mr. Huckle's native place will be supplemented by contributions from those among our readers who will, no doubt, be pleased to think that a permanent memorial of one so highly esteemed as our late friend was will be erected in the village street to keep his memory green where he was born and lived all his life. Contributions, however small, will be duly acknowledged in our pages.

The circular reads as follows:—

"JOHN HUCKLE MEMORIAL FUND.

COMMITTEE.

REV. E. P. ANDERSON, *Chairman.*

MR. F. C. FISHER, *Hon. Treasurer.*

EDWD. TOMS, *Hon. Secretary.*

A wish having been strongly expressed by the parishioners of King's Langley and other friends of the late Mr. John Huckle that some memorial should be erected to him, a public meeting was lately held, at which it was decided to raise £60, to cover both the cost of a tombstone and a small granite drinking-fountain, to be erected in the village street, this being suggested as a fitting memorial of his great interest in the welfare of the district generally, and specially in the recently-completed Water Supply Scheme.

Should there be any balance in hand, after carrying out the proposed memorial, it will be handed over to Mrs. John Huckle."

ROYAL AGRICULTURAL SOCIETY.

LEICESTER MEETING.

Amid the most favourable surroundings the fifty-seventh annual exhibition of the Royal Agricultural Society opened at Leicester on Monday, the 22nd ult., and the general success of the meeting may be judged from the official figures, which, when made up on the following Friday, showed that the aggregate number of persons who passed through the turnstiles during the week was 146,277; the total sum received for admission being £10,622. 15s. On Thursday, the first popular or "shilling day," over 80,000 persons paid for admission. It gives one some idea of the magnitude of this show when we say that more than six hundred pounds' worth of catalogues were sold during the week.

Leicester folks, therefore, had just cause for feeling very proud at so splendid a result following the visit of the premier Agricultural Society of England to their town. Favoured with fine weather and for the most part brilliant sunshine, the profuse and tasteful decorations with which, in honour of the Royal visit, the main thoroughfares of the town were decorated, looked gay in the extreme, and the near proximity of the show-yard to the station enabled the greater portion of the visitors to reach the ground in comfort on foot and see the decorations on the way.

On Tuesday the Prince of Wales, accompanied by the Duke of York—who has been elected president of the society for the coming year of 1897—visited the show and spent

some time inspecting the exhibits, the Prince and his son being themselves exhibitors and prize winners in several classes.

The bee-section of the show—with which we are more particularly interested—looked exceedingly well, and, although the familiar figure of John Huckle was missed from his usual place, Mr. Young, the new secretary of the B.B.K.A., made a more than creditable first appearance at the "Royal" as successor to Mr. Huckle, in the completeness with which the arrangements were carried out. During the whole five days the show lasted the bee department was, as usual, a rendezvous for bee-keepers, for whom it possesses attractions amounting almost to fascination. We are always pleased to meet the many enthusiastic bee-men who never fail to put in an appearance at this the main show of the year. It was also gratifying to see how great an amount of interest was taken in the exhibits by crowds of persons desirous of knowing "something about bees." We understand that those dealers who were represented at the show were more than satisfied with their bookings of orders and sales.

THE BEE EXHIBITS.

Class 315. *Collection of Hives and Appliances.*—Four collections were staged in this class, and so closely balanced were the merits of those to which the prizes were awarded, that only a few points divided them, after a most thorough investigation of each collection by the judges. Messrs. Meadows and Redshaw are old competitors on the show-bench, and so close do they keep together that it becomes a knotty point to decide who will take the pride of place. In this case it was found that Mr. Meadows had got first and third prizes, and Mr. Redshaw second, for collections which included well-made goods of the most up-to-date type, everything of real use in the apiary being included. A strong point, as usual, with Mr. Meadows was the number of novelties introduced since the last "Royal" Show. Mr. Varty, of Burnaston, near Derby, who made his first appearance as an exhibitor of a collection at the "Royal" staged a small, but very fair, display of useful things.

Class 316. *Observatory Hive with Bees and Queen* (6 entries). — This was a fairly good class, but one that would give little trouble to the judges. Mr. Hill's was a good hive, well combed and stocked, and well merited its first place, as did Mr. Brown's, second. One of the exhibits failed to comply with the rule that all combs should be visible on both sides and was in consequence passed over.

Class 317. *Best and most Complete Frame Hive* (12 entries).—This was a very excellent class, most of the hives staged being admirable specimens of workmanship, and fully adapted to the end in view. Any one of the hives to which prizes were awarded well merited a first, but as all cannot take this, it comes to a very small matter dividing them. Messrs. Lee & Son's hive, which took first, showed a hive with its outer case in parts, made wider at bottom than top, thus overlapping at the joints and doing away with plinths. This is a return to a style in vogue some years ago, and is intended to remedy the fault of badly-made plinths for keeping out wet. It secures the end in view no doubt, but at the expense of symmetry and good looks. The internal arrangement of the hive were on what is known as the "W. B. C." plan.

Mr. Meadow's second prize hive was a very complete one, comprising also one or two new ideas useful in their way. One was the floor-board, which could—by withdrawing from the rear and reversing—be made to give space below the combs for winter. By the same means any dead bees dropping from the combs, and the general débris usually accumulated on floors in the winter months, could be removed for clearing away without disturbing the bees.

Mr. Redshaw's third prize hive was an admirably made one of his last year's type. Several of the unplaced hives had faults quite impossible to overlook, and unaccountable if made by practical bee-keepers. For instance, the inside measurement of one was as near 15 inches as need be, thus giving too much space between side bars and true sides. Another had a section rack with no adequate means of keeping the bees warm while working it. So little was this matter seen to that a penny piece could be inserted from the outside of the rack in several places.

Class 318. *Frame Hive for Cottagers' Use* (9 entries).—Another capital class, every hive recognised by the judges being both well worth the prices affixed and thoroughly efficient for cottagers' use. There was no running away with the prizes here, a very little dividing the best of them in point of merit. So we need not particularise.

Class 319. *Honey Extractor* (8 entries).—Mr. Meadows was in full form in this class, taking first and second prizes and a H.C. for a "Cowan Reversible," a "Raynor," and his well-known "Guinea" extractors respectively. One good machine was much lowered in merit by having the caps of galvanised iron, the maker evidently being unaware that the acid in honey is liable to set up oxidation with the zinc used in galvanising, and so damage the product.

The remaining classes, apart from honey, comprised the one for *Useful Inventions Connected with Bee-keeping* (11 entries). An interesting class, but not calling for special comment, except to say the prizes as recorded in our last issue were well merited by the respective recipients.

Class 329. *Most Interesting and Instructive Exhibit of any Kind Connected with Bee-keeping*, produced only four entries. Miss Dawe's large and comprehensive exhibit of articles in daily use in which honey is an ingredient was very interesting, and deservedly

got a silver medal. Mr. Banck's modest but exceedingly interesting exhibit of a single small bottle of honey vinegar received a certificate of merit, and, as they say, "might have had more," for it is one of the utmost value to bee-keepers to know how beautiful a sample of pure vinegar of the finest quality may be made at home from honey useless for table purposes by reason of its fermenting through unripeness, or of little value commercially through poor flavour or colour.

The honey classes may be dealt with in general terms by saying that some very beautiful samples were shown, along with others of very unequal merit. The early date on which the "Royal" is held makes a "win" there especially meritorious, if obtained by a quality of produce which would win later on in the season. And so we may say the sections were not of the uniformly high quality which may be looked for at later shows, but very good, nevertheless. The same may be said of the extracted honey of '96. The second prize sample of Mr. Painter, but for a little want of consistency, would, we think, certainly have been placed first, as it was of superior flavour to the first prize lot of Miss Cooper; the latter, however, was of that dense consistency as to require what some people describe as "eating;" Mr. Seymour's third prize honey was also a very good sample. Some exceedingly good honeys were among the commended ones.

Taken altogether, the exhibits at the "Royal" reflected much credit on those who staged them, and it is obvious that our exhibitors are now well up in preparing their produce for market, and for show purposes.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

TO THE BEE-KEEPERS OF SCOTLAND.

A SCOTCHMAN'S APPEAL.

[2543.] The bee-keepers of the United Kingdom are under a deep debt of gratitude to you, Messrs. Editors, for the editorial of June 4, 1896. Your whole statement is well worthy of the consideration of all who desire to see bee-keeping put upon a proper footing as one of the smaller, though by no means unimportant, cultures of our country, and who are anxious that under the Technical Education Grant it should at least have a fair share of the public money voted for this purpose. To my knowledge, there are still many counties in Scotland where a good deal of funds are spent upon subjects in which the people show but the slightest interest, and where even the results themselves are somewhat doubtful; while not one single farthing is spent on the smaller industries such as bee-keeping, poultry rearing, fruit husbandry, and the like, which almost everybody, if they have a wish, might do a little at. At the same time, I am bound to admit that the fault lies mostly with our bee-keepers themselves; for, as far as my knowledge goes, wherever these have banded themselves together and respectfully but earnestly approached the County Council, something has either been done or been promised to be done, or, better still, both. Neither is it any want of enthusiasm or success on the part of our bee-keepers that hinders us; it is simply want of cohesion and organisation. Like our multifarious churches and sects, our associations and districts follow their own sweet will, every one doing that which is right in its own eyes. What we want is a Bee King to bind us together and guide our affairs. Your kindly criticism of the late S.B.K.A., and our general condition and particular methods of bee-working, is altogether fair, and on the whole quite correct. I could, if controversy were my object, traverse some of the details of your statement anent Scotland, but what I want is to use the article as a lever to resuscitate the S.B.K.A., not to pull in pieces your contribution, as writers too often do valuable hints. But, Mr. Editor, you must forgive me for saying that your well-meant proposal to tack us on to the B.B.K.A. won't go down in Scotland. We note your careful (not to say naïve) use of the term "British"; you have an idea of our sensitiveness, and we thank you for it. But we must remind you that although we love you and are proud of you English, we could never allow ourselves to be annexed by you. We maintained our national independence till we could treat with you on equal terms for Union; we stuck to our national Kirk in spite of the beauty, grandeur, and antiquity which gather round the Church of England, and in spite of the power behind it; and even yet we have our Scotch Office, and Scotch Education Department, specially to look after our own affairs. So you see Scotland has been, and ever will be, a nation, your neighbour. I am pleased to notice that Sir T. D. Gibson-Carmichael has joined your association, and I am quite sure that he will still be ready to help us; but from the onerous duties of the Hon. Member for Midlothian, and from his not over robust health, which we regret, we cannot expect much aid from him. But "God helps them who help themselves," and I venture to make the following practical suggestion to bring the present subject to an issue. The time for talking and writing, it seems to me, is past; the time for united, hearty action has come. Let us have a meeting in Glasgow, say, on any day from July 6 to 8,

and between the hours of two and four in the afternoon. Let every important bee-district in Scotland, and every bee-keepers' association throughout the country send at least one representative to the meeting. I will take upon myself to send a post-card to all the influential bee-keepers whose names I can get hold of, and I am willing to act as secretary *pro tem.* We have the remains of the former association; we have hundreds of intelligent bee-keepers; our noblemen, M.P.s, and county gentlemen will help us. "Let us do or die." Our flag waves proudly. "Scotland yet!"—REV. ROBERT MCCLELLAND, *The Manse, Inchinnan, Renfrew, N.B.*

DO BEES TRANSFER EGGS?

[2544.] That bees occasionally transfer eggs from one part of a hive to another has been from time to time asserted, but can hardly yet be considered an accepted fact. The following notes of what seems to me a fairly convincing instance will, it is hoped, be of interest.

In the spring of this year I had two colonies side by side in "Paragon" hives. These hives have their bodies, section-racks, &c., square and similar in outline, so that they can be piled up indiscriminately. In summer use they have a drone and queen-trap below the floor-board. On May 27 I determined to join the two colonies—we will call them "A" and "B." At that time each body-box was fairly well filled with brood and stores, and each carried a rack of sections over excluder-zinc. Early that morning "B" queen was removed, and what may be called an "introduction-board" placed over "A" section-rack. It is something like an old-fashioned honey-board, but is made of ordinary perforated zinc, and has a slide in its framework, which can, by removing a plinth, be worked from outside the hive, giving such passage-way as may be desired, or cutting it off altogether when pushed home. "B" body-box and section-rack were then lifted up together and placed on the introduction-board. The same evening the slide was drawn out, and a glance at the hive-front next morning showed that the colonies had been peaceably joined, without disturbance of either brood nest.

On June 2 the introduction-board was removed and "B" body-box placed above its section-rack. It was also carefully examined for possible queen-cells, but there were none, nor was there any brood unsealed; a good deal had hatched out.

On June 8 a section-rack was added between the two already in position. The disposition of the hive was then as follows:—Floor board with drone and queen trap below; shallow chamber with starters; "A" body-box, a sheet of best excluder zinc with two-inch plain margin completely covering the body; three section racks, and on the top of all, "B" body-box.

On June 20 a swarm came out, leaving the queen and a handful of bees in the queen-trap. On examining the lower body, I found about ten queen cells, one only being as yet sealed. In the top body-box "B," I found on one of the middle frames, in a suitable position towards the bottom of the comb, a large, newly-made queen-cell. It contained a healthy grub just about ready for sealing in. There were no other queen-cells. All the brood had hatched out and every cell contained honey.

It will be granted, we may assume, that the queen cannot have placed the egg in that cell. She was not a small queen; the excluder-sheet was perfect, and of the full size of the hive; it had kept her from the temptations of sections filled chiefly with drone foundation, and she had not been able to get through the excluder-zinc of the queen trap.

I regret that, being on the point of leaving home, I could not entrust the top-queen cell to a nucleus. Had the young queen hatched out there could have been no question of a fertile worker. But I do not think that any experienced bee-keeper who may have had the patience to go through the details given above will doubt that the grub was a prospective queen, and that the egg which produced her was laid by the mother bee in the bottom body-box. The two brood-nests had not been in any way mixed up or their arrangement disturbed, and a lingering sense of proprietorship had, doubtless, induced some of the original "B" worker bees to start a queen-cell, and to stock it with an egg conveyed through three section-crates to their old brood-nest on the top story from the body-box below.

I shall be glad to learn whether the above account seems as convincing to the editorial mind, or to other bee-keepers, as it does to SOUTH DEVON ENTHUSIAST, *June* 26.

REFUSED SUPER FOUNDATION.

[2545.] Allow me again to refer to this matter. I am still being written to by bee-keepers who are supplied with super foundation that their bees refuse, and having a similar experience again this season myself, it might be of value to some to know how I have successfully met this trouble, and having the promise of a good season in consequence. I got foundation from several dealers, and use it *alternately* in each rack of sections, initialling each section with the dealer's name. In this way I was able to inspect two different makes of foundation before much harm was done. It was most remarkable to see how the bees never touched one section, and worked in the adjoining one fitted with foundation made by another maker, and when the refused section was removed, and another with the approved foundation substituted, the bees at once accepted it, and worked it out; the first I inspected was a very thin, flat-bottomed make. I also remarked that any of this kind they did accept they changed the flat into

natural base. Full sheets of *very thin* foundation I found a great mistake; it expands and bulges, causing badly-built sections, and often forcing the bees to swarm. The reverse side to the "bulge" is always fixed to the separator, and gets torn when taken out. Where full sheets are used I also find that by attention to the proper fixing of the sheet so that it will give the bees no trouble, double the number of good sections may be secured compared with those wherein it is so fixed as to make it impossible for the bees to finish it perfectly, or without trouble to themselves. The dealer who during the past two years supplied me with the foundation which was such a failure, this season (unasked) sent me a small quantity to try. I used it with my best stock; the bees at once accepted it, and is now off the hive in beautifully finished sections. This induced me to try more of it, to go there where it is annually retailed. Some of this answered well, but all at once the bees absolutely refused to touch it, fortunately in time for me to stop its use. This left me with one kind only, of which no single sheet has so far been refused, and that is the natural based one. I have over a thousand sections to form my observations from, so they ought to be reliable. At first I put only the foundation of one particular maker on one hive. This I found a mistake, and the bees, though strong, never went up at all into the sections. I then used alternately a few sections fitted with the foundation the bees liked so well, and it acted so strongly as an inducement that the bees at once went up and started work in each case where I tried it. But the delay caused those two particular hives to swarm—the only swarms from my twenty-two stocks. I never had so large a number of sections so nearly finished thus early in a season as I have just now; this hopeful state of things seemed near being as great a failure as were the last two seasons had I not taken the precautions that I now recommend any bee-keeper to follow. And in justice to all bee-keepers I ask any one who has refused bad foundation to return it to the maker; it is only by so doing that dealers will be compelled to supply such as is unobjectionable to the bees. It is a pity that bees cannot be relied on to make perfect sections from "starters," for I believe they would not refuse very small ones from the very foundation. "Refused super-foundation," I am afraid, will be again this season complained of when I see the names of those who continue to supply this useless "stuff." I am sure, were it only properly impressed on them, they would never do so again another season. Bee-keepers have themselves the remedy in their own hands.—T. KIRWAN, *Dunmore, co. Galway, June* 26.

[Let us say at once that we have not only deleted some portions of the above communication, but have (notwithstanding the request of our correspondent that the name should appear) omitted the name of the dealer from whom the foundation recommended was obtained.

No apology on our part is needed for this, for several reasons. First, it is our rule not to allow the goods of any one dealer to be specially recommended in these columns, and second, because to have complied with the request made would almost, if not quite, imply that the only reliable foundation to be had in the kingdom was that of the firm he named. This would in itself be bad enough, but it is infinitely worse, in view of the strong impression in our mind, amounting to something very near certainty, that identically the same foundation may be got from a dozen or so other dealers in the country. Anyway, in the remote event of being wrong in our impression, we have no hesitation in saying that we can name not a few dealers from whom may be had foundation which will be as readily accepted by bees as that he refers to, and in view of this, it would have been gross injustice to publish our correspondent's communication in its entirety.—EDS.]

PLEASE TELL ME WHY?

VAGARIES OF UNRULY SWARMS.

[2546.] On June 11 I had a very large swarm which settled high up in a walnut-tree (my swarms generally cluster on the lower shrubs). They more than filled my largest skep, but were safely hived and placed on stand B. Another smaller swarm was hived and located the same day on stand C; A, which stands between the two, having been established on June 8, the next morning I observed a large cluster of bees under the board of B, which (supposing them to be merely an overflow) I swept off with a butterfly net and put them to run up into C, which they did as obediently as any congregation could go into church. This I did three times at intervals of half-an-hour. Now, see how evil communications corrupt good manners; for these strangers from B, being discontented Socialists, infected C with their spirit of restlessness, and about 11 a.m. every bee left both B and C in a huge swarm. Captured again, they were restored to B, this time to a doubled skep, but the next morning they were out again. On the third and fourth days they did the same, but this time of their own accord. They somehow managed to cram themselves into A, which had hitherto been behaving quite properly. The next morning they issued forth from A in undiminished numbers.

Was it that bees accustomed for some generations to a comfortable frame hive, disdained the humble skep in which necessity had driven me to house them? So I knocked together an emergency hive, in which they are now quiet, being partly engaged in nursing a ready-made family of children taken from another hive.

Can any one suggest a reason for this

unusual flightiness? Cheshire (vol. ii. p. 138) says "they sometimes appear to be dissatisfied with the hive, and refuse to remain." This can hardly have been the cause in this case, as I gave them a different skep on the third occasion. Mr. J. Howard explains that "they came off at first with a virgin queen, and each time she went forth to meet her consort, whom she missed the first four flights, the bees had to go also." I suppose because they would not remain queenless. This seems probable. Any other explanations offered?—C. C. JAMES, *Wortham Rectory, Diss.*

[We shall be very pleased to insert any suggested reason "why" the bees behaved in such unruly fashion, sent by readers in response to our correspondent's request. Our own view largely inclines to the belief that the subsequent confusion—as well as the bad behaviour of the bees—arose from the, no doubt kindly meant, act of our correspondent himself, who as a bee-keeper ought to have remembered that (unlike "discontented Socialists") bees are loyally amenable to order and government. They also dearly love "home" and their "mother;" but strongly resent having uninvited "foreigners" domiciled upon them. Bearing all this in mind, then, the unfortunate act of sweeping off the bees of B from the underside of their own floor-board (where they had considerably clustered to allow room, air, and comfort in the hive for the rest of the family), and "running them in"—as the policemen say—into an alien colony, was the indirect cause of all the trouble and upset which followed. We, too, as well as any of our readers, could suggest several reasons for the after-occurrences; but, seeing that such "flightiness" on the part of bees so rarely happen in the apiaries of experienced bee-men, any such suggestions are mere guesses, which may be very far removed indeed from the real cause of trouble.—EDS.]

TREATMENT OF FOUL BROOD.

A QUESTION FOR OUR READERS.

[2547.] In the midst of this beautiful bee season one seems compelled to utter a wail. Late in June of 1894 I became suspicious of one of my stocks. I examined and found foul brood. Transferred bees on to starters of foundation in new hive. In the fall of the same year I found the disease in some skeps; this caused me to examine all. Having, as I thought, discovered all that were affected, I promptly destroyed brood combs and frames. Hives were disinfected, naphthaline placed in all hives, and those requiring food were given naphthol beta in syrup. In the spring of 1895 some stocks had perished, others were weak, but with a little feeding some of the stocks did very well, and gave some surplus. Others, upon being examined, were found to be still diseased; these were promptly dealt with. In the autumn, and again this spring, all were fed with medicated syrup. The first week in May I examined, when all appeared right.

Last week in same month, before supering, I examined a double queen stock, and found my enemy on both sides of dummy. Frames were burnt, hive disinfected, bees placed in quarantine for two days. Two days later found another stock diseased; this was a swarm last year. Put on to clean whole combs, and disinfected by means of spray diffuser with salicylic acid. This was badly affected. After starving the bees two days I rehived them with the other lot in clean hive, and now they appear to be doing well. Yesterday, 18th, I took rack of sections off my best stock. In a rack of shallow frames I found a little drone brood (a thing I never saw in a super before, although I never use any excluder). One cell contained a coffee-coloured mass which showed that my enemy was again to the fore, and this when I was just beginning to hope for a good season. I have a few stocks at a distance from home. They are all healthy. But, alas, two of the best swarms decamped. Will some of the readers of the B.B.J., who have had good experience in the treatment of foul brood, kindly give me a plain plan which has proved effective, and say what they would do in a case like mine just in the midst of the season.—EAST CAISTER.

BEE STINGS.

[2548.] In reply to Mr. Grimshaw's letter (2541, p. 254), I may say that I do not quite understand his expression, "Cure a sting." I believe it possible to counteract the effects of a sting by outward applications, but the application must be applied so that it will penetrate into the capillaries.

In the "Manual for the Medical Staff Corps," the paragraph relating to the treatment of poisoned wounds, under which bee-stings come, says:—"Firstly, to prevent the poison spreading beyond the wound by tying a string tightly round the part, if possible, immediately above the wound, between the wound and the heart; secondly, to remove the poison from the part by suction, or by burning or cutting out the flesh immediately around the wound. In less severe cases, as the stings of small insects, the treatment is to allay irritation by applying aromatic spirits of ammonia." Again, in "Quain's Dictionary of Medicine" we find:—"Innumerable applications have been suggested as specifics in cases of stinging. Their efficiency, without doubt, depends mainly upon their being applied to the seat of the sting *quickly* after infliction. The *modus operandi* of many is quite enigmatical, but others would seem to decompose the irritating material, and so prevent or arrest its effects."

. . . . .

"In the case of bee-stings it is important to search for and remove any parts of the

penetrating organ which may have been left in the wound."

In face of the above authorities, I think Mr. Grimshaw can hardly hold that local applications are practically useless. For myself, I should consider the effects of a sting as causing any or all of the three following :—(1) Pain (local); (2) Swelling (local); (3) Constitutional effects extending to any part of the body. If therefore we can find an application which will relieve any one of these effects, we must consider it in the light of a remedy, or else all our medicines are a farce, as, after all, nature must effect the *cure*, but by the use of drugs, internally or outwardly, as the case may be, she is assisted in her work. It is probable that very few, if any, drugs *fully counteract* the disease on which they act, but by partially counteracting it they help nature to overcome that which, if left to itself, might overcome nature, or, at any rate in the struggle, leave the body impaired for life.

I think, with Mr. Grimshaw, that it is important to reach the capillaries by scratching the skin before applying remedy, and of course this amounts to a hypodermic injection, as with the syringe the drug is only inserted just beneath the skin.—FRED H. OLDFIELD, *Bomere Heath, Salop, June* 27, 1896.

CURE FOR BEE-STINGS.

[2549.] One or two stings on the hand would formerly cause me immense swelling of both hand and arm; with irritation and inflammation extending over my side; these continued for days, but for nearly two years I have used for myself and others a saturated solution of common washing soda in vinegar (soda to be shaken in vinegar occasionally until no more will dissolve). The sting being removed the solution is rubbed in; it should leave a coating of white when dry. Now, if bees are at all irritable, I rub my hands over before manipulating; this prevents many stings, and those I do get give little or no trouble.—NED SWAIN, *Fordwich, Canterbury, June* 22.

AT THE "ROYAL" SHOW.

SENDING HONEY AT "HALF-PARCEL RATE."

[2550.] My visit to the "Royal" and the pleasant acquaintances one meets there, disposes me to put my impressions on paper. Travelling by Peterboro' going and Market Harboro' in returning, one need not wonder that Leicester has come out first as a honey county, for it is devoted to sheep-feeding, and consequently almost full of white clover, which the late rains have brought to perfection. I say to readers—if your pocket can stand the outing and you can afford the time, —always go to the "Royal." One can there exchange ideas with, and see in the flesh, some of the pioneers of the craft who are not seen at our local shows. We there met both our Editors, and, among others, Messrs. J. M. Hooker, R. A. Grimshaw, our old friend John Walton, and quite a number of bee-friends from Nottinghamshire, besides plenty whose names I don't know. The judging of the appliances and honey gave such satisfaction that I heard no sign of a grumble. The arrangements were, to my mind, perfection, thanks to the new secretary of the B.B.K.A., Mr. E. H. Young. In fact, taking everything into consideration, 1896 is a record year. One thing I noticed particularly was that many of the exhibitors do not avail themselves of the half-parcel rate (owner's risk). It applies to all railways. I had to send mine (seven entries) on three railways, and it arrived in good condition. The saving in the carriage is about one-half, if you can send per passenger train both fruit and honey in spring crates. I have not sent either ripe fruit or honey in any other way for twelve months past and I have despatched as many packages as some and have not had one lost or sustained any damage. I want all bee-keepers to send their consignments in this way, for the concessions of the railway companies are, like angels' visits, few and far between. But now my best of "queens" gives me the news of "Some one waiting to see you on business," so I am reminded of another useful saying, viz., "business first, pleasure after," therefore I must close.—R. BROWN, *Flora Apiary, Somersham, June* 29.

SPARROWS AND BEES.

[2551.] I have a large number of sparrows in my garden, and see them constantly flying from one tree to another over and between the hives catching the bees. Will anyone give recipe for a good bird-lime?—NED SWAIN, *Fordwich, Canterbury.*

FOUL BROOD HARDSHIP.

[2552.] It has this week come to my knowledge that foul brood is within a stone's throw of my hives. Some of this party's bees have died quite out, and an empty skep is left in the garden to catch any stray swarms, if such should come that way, so I was told. This was news to me, and, seeing that I have spent about £10 on bees in various ways, annoying. It made me give a good look at a weak stock in my garden, and the result of that inspection I will not give here, but it was anything but pleasant. These people appear to be doing nothing to remedy the mischief they are causing, simply letting the bees "take their chance," and this means risk of infection to all neighbouring hives. Although we have kept naphthaline in our hives, and used carbolic acid, the disease has been conveyed into us at last, and now to get rid of it is the task before me.

This appears but a poor locality for bees, no honey, and one cannot wonder there was a short supply of Sussex honey at the East-

bourne Show, the bulk going mostly from Kent, although I have fed my bees well to get them strong this spring, I have not, as yet, taken a single finished section; none being completed on looking at them a week ago. The gentleman who, writing from Sussex, states, in your paper, that he took 100 lbs. so long ago must be in a honeyed part of the county.—B., *Bexhill, June* 25.

Queries and Replies.

[1499.] *Arranging Observatory Hive.—Age of Queens.—Working Sections.*—1. I have just had an observatory hive given to me, and a swarm is just working out the frames ready to transfer to it. The hive holds six standard frames, and revolves upon a central pivot. How ought I to arrange the combs with regard to the disposition of the brood, honey, pollen, &c? 2. What are the usual guides for determining age of queen, particularly with regard to the appearance of queen herself? 3. I have had ten bar-framed hives—for the last two years—but am uncertain of the ages of the queens, except those in the three hives which have swarmed. I am anxious to raise queens and re-queen them. How should I best set about it, and when? 4. I have some partly-finished sections, which I am about to return to the bees, together with others fitted with full sheets of foundation. Does it matter how they are arranged? Should the partly-finished ones be put altogether in the centre of the crate, or alternately with those having sheets of foundation in them? 5. Is there any advantage gained in working three tiers of sections? So far, I have only used two.—Guthlac, *Passenham, June* 24.

Reply.—1. It is only necessary to keep the combs containing brood as close together as possible, so that the bees may cover it in a continuous cluster. 2. There are no "guides" beyond general appearance, except that old queens are almost devoid of the usual pubescence or hairyness on the upper side of the abdomen. A practised eye can tell a young queen, but no one is able to more than guess at the actual age after the adult stage is reached, so different are the appearance of queens under certain circumstances. A very old queen usually betrays age by sluggishness of motion, and sometimes torn wings. 3. A guide-book is absolutely necessary for this. 4. It makes little or no difference how they are placed. 5. If bees are sufficiently strong to work in three racks, or even four, it is no doubt advantageous to use them.

[1500.] *Nucleus Swarms.—Foul Brood Troubles.*—Referring to your remark respecting nucleus swarms in reply to query 1490 (page 255), would you consider the following a nucleus swarm:—Take from hive queen and frame of brood on which she is found, put in fresh hive on the old stand. The combs of brood of parent hive is then put upon the stand of a third hive, which latter is removed a few yards away; this to be done in swarming season and plenty of drones flying about. Badcock, *Bexhill, June* 25.

Reply.—The plan of procedure given above is perfectly correct, and in accordance with instructions given in *Guide Book* for making an *artificial* swarm, but that is quite different from nucleus swarming, which was the subject dealt with on page 255. To accomplish the latter operation requires first a nucleus colony of bees with laying queen. This—after caging its queen—is placed upon the stand of a strong stock, which is set upon the stand previously occupied by the nucleus hive. The flying bees of the strong stock form the swarm; hence it is termed a "nucleus swarm."

SAD END OF A BEE-KEEPER IN RHODESIA.

The Press Association's Wakefield correspondent says that Mr. Norton, who, with his wife and child and the latter's nurse have been murdered at Norton, near Salisbury, by the Mashonas, is the eldest son of Mrs. Norton, of Pledwick House, Newmillerdam, near Wakefield, a well-known Yorkshire lady. The deceased gentleman and his wife recently visited Yorkshire, and after the birth of the child they returned to his estate in Rhodesia, taking with them a trained nurse from York.

The above press-cutting, just received, has a melancholy interest for bee-keepers, the gentleman referred to having taken out with him to Rhodesia in March last a hundred hives and all necessary appliances for bee-keeping, supplied to him by Messrs. Geo. Neighbour & Son, of High Holborn. Mr. Norton was sanguine of making a success with bees in S. Africa, and now comes the sad news referred to above, which once more illustrates how truly "man proposes," &c.

BEES AS CRIMINALS.

We have before had occasion to comment upon the delightful freshness and accuracy of the views "about bees" as expressed in press-cuttings kindly sent us by correspondents from time to time. Here is one—headed as above—just received which affords a fair sample of the "up-to-date" bee-wisdom displayed in such effusions:—"In *Pearson's* for June, a writer raises the question of animals as criminals. Among other cases he refers to the criminal doings of bees, which he says, in order to save themselves the trouble of working, have been known to attack well-stocked hives in masses, kill the sentinels, massacre the inhabitants, rob the hives, and carry off the provisions. 'Repeated success in these nefarious enterprises,' he goes on to say, 'begets in them such a taste for robbery

and violence that they recruit whole companies, which get more and more numerous until regular colonies of brigand bees, are formed. The most curious fact is that crime can be produced by drink among bees just as it is among men. By giving working bees a mixture of honey and brandy to drink you can introduce brigandage into an otherwise well-conducted, moral hive. The bees soon acquire a keen taste for this beverage; they become ill-disposed and irritable, losing all desire to work; and, finally, when hunger comes upon them, they attack and plunder the well-supplied hives of their sober neighbours. One variety of bees live entirely by plunder. They are born with defective organs of nidification, and are what Professor Lombroso would call born criminals."

Without quite admitting the hereditary principle so far as handing down the criminal instinct, we have no hesitation in voting the writer of the above a "born" penny-a-liner.

BEES "TAKING POSSESSION."

On Friday last Mr. E. A. Morley, butcher, in the High-street, Royston, Herts, had a novel experience by receiving a swarm of bees. The visitors settled around a dormer window in the roof of the house, and quickly took possession of a spare room, and established themselves under the rafters, from which somewhat commodious "hive" they have been improving the shining hours during the week, and have evidently come to stay.

Bee Shows to Come.

July 8.—At Redhill. The Surrey Beekeepers' Association in connection with the Borough of Reigate Horticultural Society.

July 15.—Home Park, Windsor. Windsor District Berks B.K.A. show of bees, honey, and appliances, in conjunction with the Prince Consort's Association. Seven open classes with liberal prizes. For schedules apply Mr. W. S. Darby, Consort Villas, Clewer, Berks. Entries close July 8.

July 14 and 15.—At Gainsboro', in connection with the Lincolnshire Agricultural Society. Bees, honey, and bee-appliances.

July 22-23.—At Longton. Staffs B.K.A. in connection with the Staffordshire Agricultural Society. Show of bees, honey, and appliances.

July 23, North Norfolk B.K.A., *Annual Show* at Melton Constable Park. Entries close July 16. Schedules from C. J. Cooke, hon. sec., Edgefield, Melton Constable.

July 24 and 25.—Bristol, Somerset and South Glos. B.K.A. shows at Knowle. Also at Henbury, July 29.—Entries close July 17 and July 22. Schedules from Miss Dawe, Hon. Sec, Long Ashton, near Bristol.

August 1.—Helsby, Cheshire. Special class for one 1 lb. jar of extracted honey. Entries close July 18. Dr. Briant, secretary, Helsby, by Warrington.

August 3 and 4.—At Delapre Park, Northampton, Northants B.K.A. Annual Show. Eight classes for honey and five "special prize" classes open to all. Entries close July 28. Schedules from R. Hefford, Secretary, Boughton, Northampton.

August 5 and 6.—Chester Horticultural Show and Fête. Exhibition of honey, hives, and bee-appliances. To be held on the Roodee. Liberal prizes. Schedules from J. Wynne-Ffoulkes, Esq., Crypt-chambers, Chester. Entries close July 23.

August 7.—At Strathpeffer, N.B. Strathpeffer and District Horticultural and Beekeeping Society. Ninth annual show, which includes bees, hives, and honey. Schedules of prizes from J. H. Bisset, Schoolhouse, Fodderty, Dingwall.

August 13.—At Goole, in connection with the Agricultural and Horticultural Show. Bees and Honey. Entries close August 8. J. Luddington and H. S. White, secs., Lindum House, Goole.

August 15.—South of Scotland B.K.A. annual show at Dumfries. "Burns Centenary" classes open to all-comers. Schedules now ready. Entries close August 8. James Kerr, Secretary, Douglas-terrace, Dumfries.

September 8.—At Moorgreen. Notts B.K.A., in connection with the Greasley, Selston, and Eastwood Agricultural Society. Open class for a 1 lb. bottle of honey. Schedules ready. Apply Geo. Hayes, Mona-st., Beeston, Notts. Entries close August 29.

September 9 and 10.—At Derby. In connection with the annual show of the Derbyshire Agricultural Society. Fifteenth annual show of the D.B.K.A. as above. Liberal prizes for bees, hives, and honey. Six of the eighteen classes are open to all comers. Schedules from F. Walker, Cattle Market, Derby.

September 16.—Wotton-under-Edge B.K.A. Annual Show of Honey. In the Church Mill. Schedules from E. W. Read, Hon. Sec., Wotton-under-Edge.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

INQUIRER (Staffs.). — *Queen Cast Out of "Wells" Hive.*—The queen is evidently a virgin, and has no doubt been run in to what you call No. 2 hive among the other bees when uniting.

R. C. SMITH (Biggar).—It is so rare an occurrence for an old fertile queen to leave her hive as stated that we should advise you to examine the combs to see if the queen has come to grief in some way, and a young one raised in her stead. It will easily be proved if queen-cells are seen.

GEO. M. SAUNDERS (Keswick).—*Measurements of "W. B. C." Hive.*—By keeping to the instructions given in "Modern Bee-keeping," you will not go wrong.

H. CLARKSON (West Hartlepool).—*Forming Bee Associations.*—Mr. E. H. Young, Secretary of the B.B.K.A., 12, Hanover-square, London, will supply the information needed for the purpose.

Special Prepaid Advertisements.

Situations, Publications, Bee Plants, &c. — Up to Twelve words, Sixpence; for every additional Three words or under, One Penny.

HONEY.—1 Cwt. Extracted. 140 1-lb. Sections. D. DAVIES, Trevecca Farm, Talgarth. M 52

TO BE SOLD, Cheap, 7 old STRAW HIVES, 2 old Wood Hives. 4 New Swarms. Apply, H. WILSON, Grocer, Methley, Leeds. M 53

WANTED, HONEY EXTRACTOR in good working order. State lowest price. TURNBULL, Townhead Gardens, Workington. M 54

STUDLEY ROYAL LAWN MOWER; 18in., splendid cutter. Useful EXCHANGE, or sell £2. TURNBULL, Townhead Gardens, Workington. M 55

HEATHER SEASON.—40 Shallow Frames filled with clean COMB. Offers. FORD, Warboro', Wallingford.

OBSERVATORY HIVE, new three-frame, made in oak, walnut, and gilt. 30s., or Exchange. DAVIS, Pilton, Shepton Mallet. M 48

A FIRST-PRIZE WINNER.—Two-Framed Observatory HIVE, black and gilt, What offers? H. SEAMARK, Willingham, Cambs. M 50

1896 QUEENS, 3s.; Swarms, 10s. Nuclei with Queen, 8s. 6d. WOOD & TAYLOR, Apiary, Hathersage, Sheffield. M 46

HEALTHY, Clean, Shallow COMBS for Heather, 5s. doz.; 4 gross Standard Frames in flat, 8s. gross, 30s. lot. GARNER, District Sec., Dyke, Bourne, Lincs. M 47

WANTED, Three Standard Frame (one above the other) Observatory HIVE; mahogany preferred; revolve on axis, with tunnel, ventilated, for bees to pass in and out, such as used at shows; plate glass sides; must be in good condition and cheap, fit for show table. J. PRICE, 253, Dial-lane, West Bromwich. M 51

STOCKS, Nuclei, Swarms, and Queens.—Address, Rev. C. BREREETON, Pulborough, Sussex.

GOOD SWARMS, superior Bees, packed free, price 15s. JOHN WALTON, Honey Cott, Weston, Leamington. M 35

SPLENDID NEW HONEY, one 56 lb. tin, 6d. lb. 5 dozen sections, 9s. dozen. CRAM, Chorleywood, Rickmansworth, Herts. M 26

FOR SALE, strong SWARMS from Healthy Hives, packed in new straw skeps, 12s. 6d. each, packing free. LINSTEAD, Garboldisham, Thetford. M 25

WANTED.—New SECTIONS, first quality, prompt cash. Also Beeswax and extracted Honey. Manager, Southdown Apiaries, Bexhill, Sussex. 197

LACE PAPER for GLAZING SECTIONS. 100 strips, 7d., 200, 1s. 2d., 300, 1s. 6d., 500, 2s. 3d., 1,000, 4s. Post free. Best quality. Neat patterns. W. WOODLEY, Beedon, Newbury.

Prepaid Advertisements *(Continued)*

WANTED, SECTIONS, EXTRACTED HONEY, and WAX. Packages lent free to Bee-keepers and Associations. Prompt cash. State lowest price. Address Rev. W. HANDCOCK, Hampton Hill, Middlesex. M 15

RELIABLE QUEENS of 1896, Natives and Hybrids (Ligurian and English). Prolific laying Queens, 5s. 6d.; Virgin Queens, 3s. Sent post free in my introducing cage. Safe arrival guaranteed. Orders filled in rotation. HENRY W. BRICE, The Apiary, Thornton Heath.

NOTICE.

A MEETING

OF ALL

SCOTTISH BEE-KEEPERS

Interested in Reviving the

SCOTTISH BEE-KEEPERS' ASSOCIATION

WILL BE HELD AT

McINNES' TEMPERANCE HOTEL, GLASGOW

On Wednesday, July 8, at 3 p.m.

Secretaries of Bee-Keepers' Associations specially invited. ROBERT McCLELLAND, Secretary, *pro tem.*

SWARMING SEASON, 1896.

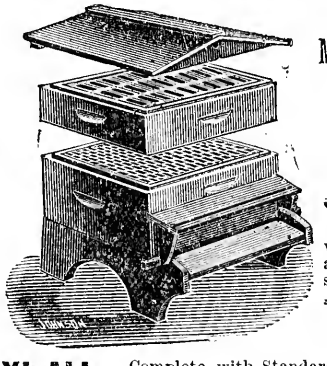
Why Bee-keepers use the Patent Hinge Plate SELF-HIVER!

Because it is the only one in the WORLD that has been PROVED and found to be a Success!!

Send post-card for Leaflet to G. W. HOLE, Patcham Sussex.

W. P. MEADOWS, SYSTON and LEICESTER.

Address Letters SYSTON, near LEICESTER.



Wholesale Manufacturer OF Bee-Hives AND Appliances.

My Hives are well-known, and are sure to give satisfaction.

SEVERAL NEW IDEAS.

XL ALL, Complete, with Standard and Shallow Bodies and Crate Sections, **15/6**

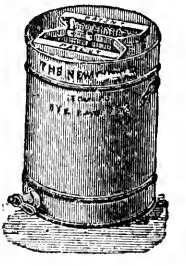
GUINEA, on the "W.B.C." plan, with Outer Case and Fittings, as above, **21/-**

"WELLS" HIVE, Complete **25/-**

EXTRACTORS

Nearly every Bee-keeper has used these. We have made and sold nearly 4,000.

Windsor, 15/-; Guinea, 21/- The Raynor, 30/-; The Cowan, 50/-



We make nearly everything in Bee Appliances.

SEND FOR CAT—A—LOG.

Editorial, Notices, &c.

GOLDEN PROFITS FROM BEE-KEEPING.

The BRITISH BEE JOURNAL is obviously far more interested in, and more anxious for, the success of the pursuit to which its pages are wholly devoted than any one—or, indeed, all—of the scores of magazines and periodicals now allotting more or less space to bees and bee-keeping. But persons who "don't know" are not seldom led to imagine that we regard with some sort of jealousy or alarm the fact that, at the present day, ten—aye, fifty—times more appears in print about bees than could be read or learned of them three or four years ago; and seeing that so many other papers are taking up "bees," they suppose that the circulation of our journals must be perceptibly diminished thereby. The very opposite is the case. Nothing so much helps us as the publicity given to the pursuit in papers circulating, as some do, by hundreds of thousands, because of the many recruits it brings in. But once a reader becomes a bee-keeper — in the proper sense of the term—and his novitiate days are over, the recruit becomes an efficient soldier of the army, wants his BEE JOURNAL, and takes a lively interest in all that is going on in the bee-world.

We thus regard every addition to the list of papers having its regular "bee-column" as another agent for pushing our own circulation, and welcome such aids very heartily. But—and this is the point we are driving at—we do not desire to see spread abroad ridiculous and absurd statements descriptive of imaginary enormous profits to be made out of the keeping of bees in this country, or, indeed, anywhere else. Bee-keepers of any experience can, and do, laugh at the calculations sometimes seen in print, and the beautifully clear manner in which it can be shown—by figures—that the way to fortune is through the bee-hive. If our own only object was to increase the number of persons who keep bees, we, too, might at least allow the mischief we are deprecating to work out the end aimed at; we have, however, no such object. Our mission is to teach that bee-keeping can be made a pleasant and fairly profitably pursuit, full of interest for its votaries, but not very specially fitted for filling their pockets to overflowing with wealth. Indeed, so far from encouraging the propagation of utterly fallacious ideas on the subject, we have repeatedly in these columns done our best to expose the folly—to give it no worse a name—of spreading abroad fabulous or ridiculous statements on the subject such as the following, which appeared a few days ago in one of the most popular and widely-circulated weekly periodicals of the present day. It is headed:—

GOLDEN PROFITS FROM MY BEE-HIVES.

AN EASY ROAD TO AFFLUENCE FOR EVERYBODY.

It is open to nearly every energetic man to increase his yearly income by at least £20 by keeping bees. He need not have much time at his disposal, and he may live in town or country, as he pleases.

Three years ago I bought a bar-frame hive for 7s. 6d., a veil, a smoker, and a few extras, running to 10s. Four pounds of Italian bees, costing about 10s. more, and there I was, fitted out for one of the easiest and most profitable businesses in the country. I live near the outskirts of a large town, and I fixed my hive in the back-yard, facing the south-east.

There were about 40,000 bees in my swarm, and they started work right away. The weather was bright; the bees worked from sunrise to sunset, and the honey came rolling in. In August the honey flow ceased, and I tied myself up in a net veil, and started to reap the harvest. It was about mid-day, and the bees were in a noble good humour. I trod gingerly, and did my best not to arouse their ire. A vile-smelling chemical mixture was fomented in my deadly bellows, and I stuck the nozzle in at the hole and pumped the stupefying vapour in among the industrious insects.

In about five minutes the bees were subdued, and I turned up the hive and extracted the honey. There seemed no end to it. I separated it afterwards, and found I had over 80 lb. of honey and 12 lb. of wax. I canvassed round the neighbourhood, and sold the honey retail at 9d. a pound, thus realising £3 from the honey alone. The wax, at 1s. 6d. a pound, made 18s. more, and on the proceeds I bought two more hives.

Out of these I made fifteen guineas, and resolved to increase my number of hives to eight. I opened business with a London grocer, and the hives regularly brought me in £44 a year. The work required to bring me in this result is scarcely noticeable; the bees did nearly everything for themselves. I had merely to feed them in the winter on pea-flour and sugar-syrup. I increased the number of

hives to ten, and the profits to nearly £40 yearly.

During the three years I have managed the bees I have never once been stung, though a friend who knocked down one of the hives came off rather badly. The expenditure each year amounted to less than £1, inclusive of feeding arrangements, and everything went on swimmingly. Many of my friends, seeing my good fortune, started hives on their own account, and all are doing well. One man, who can spare an hour a day in winter, keeps thirty hives, and scoops in an income of nearly £120 annually. Most of the amateurs I know, however, keep between twelve and twenty, and reap a harvest of £36 to £80 a year, without in any way interfering with their regular business. Several of them live in towns, keeping the hives on the housetops, and the bees make long journeys to reach the flowery parts. They do quite as well as the country dwellers, and have better facilities for disposing of the honey and wax.

Those who dwell in a heather district can make half as much again out of their hives, for the heather sends in a supply of honey after the regular flow has ceased. Heather honey, moreover, will fetch a shilling a pound instead of ninepenee.

Queen bees, the most important of the whole hive, sometimes die, and must be replaced at once, or the stock dwindles. They can be bought for a shilling or two. They can be sent by rail in little cages, and often travel across the world in them. There is always a brisk trade running in queens. Swarms, too, are valuable; and if you have as many bees as you require, the superfluous swarms, or gathering of overcrowded bees, are always saleable at about seven shillings apiece, or half-a-crown a pound. Bees are sold by weight.

A beginner can often get a start for nothing, for cottagers are often willing to give away swarms which they cannot keep. It is easily seen, therefore, that the ordinary man can easily add a very respectable sum to his yearly stipend by keeping a few hives on his roof or in his garden.

Readers of any experience as bee-keepers will have no difficulty in detecting the hand of the "Interviewer" in the above beautiful picture of "golden profits." The frequent "slips" in the narrative betray the fact that no bee-keeper has written it—unless he was "daft." A few possible facts have, no doubt, been related (rather glowingly put though, even for an ardent bee-man), and are so daringly "written up" as to turn them into absurdities. Our main complaint, however, is that such writing on bee-keeping tends to lead people astray, to cause bitter disappointment in results, and, finally, to disgust them with the whole business. This is what we protest against with all the force we can command; and, so far as speaking out plainly on the subject, the onus of bringing about such regrettable results shall not lie at the door of the BRITISH BEE JOURNAL.

WINDSOR DISTRICT, BERKS B.K.A.

POSTPONEMENT OF SHOW IN THE HOME PARK, WINDSOR.

We are requested to state that by command of her Majesty the Queen the above show is postponed from Wednesday, the 15th, to Monday, the 20th inst. Entries for honey close July 13.

KENT BEE-KEEPERS' ASSOCIATION.

SHOW AT RAMSGATE.

The show of honey, bees, and appliances of the K.B.K.A. at Ramsgate, held in connection with the East Kent Agricultural Society on July 1 and 2, was very well supported by entries, and the shed was thronged with visitors on both days, as well as the bee tent, where Mr. R. Green lectured. A grand lot of fine honey was staged, and the competition very keen; but the prizes mostly went out of the district, as will be seen by the list of awards. The silver medal of the B.B.K.A. was adjudged to Mr. E. Longhurst, of Longfield, for general excellence in the honey and other classes, consisting of five prizes and three commends, Mr. Drincqbier, of Dover, taking the bronze medal, while the certificate went to the S.E. Agricultural College, Wye. There were almost double the number of visitors compared with Canterbury last year. The experience at Ramsgate, however, so far as honey sales, was the reverse of Eastbourne, scarcely any honey being sold locally, although the exhibits were priced low and were of fine quality.

Messrs. W. Broughton Carr and J. M. Hooker kindly undertook the duties of judging, and made the following awards:—

HIVES AND APPLIANCES.

Collection of Hives and Appliances.—1st, Jas. Lee & Son, Holborn-place, W.C.; equal, 2nd, T. Lanaway & Son, Redhill, Surrey, and J. S. Greenhill, Wimbledon.

Observatory Hive.—1st, E. Drincqbier, Dover; 2nd, W. Gutch, Eynsford; 3rd, E. Drincqbier.

Best Frame-Hive.—1st, Jas. Lee & Son; 2nd, T. Lanaway & Son; 3rd, J. S. Greenhill.

Cottager's Hive.—1st, H. Hutchings, St. Mary Cray; 2nd, T. Lanaway & Son; 3rd, Jas. Lee & Son; h. c., J. S. Greenhill.

Objects of Apiarian Interest (New in Design).—T. Lanaway & Son. Certificates of Merit for swing case for three shallow frames and for combined packing-box and show-case for twelve bottles of honey.

HONEY AND HONEY PRODUCTS.

Twelve 1-*lb. Sections.*—1st, Rev. W. R. Nightingale, East Preston ; 2nd, Horticultural College, Swanley ; 3rd, S. E. College, Wye ; v. h. c., Lieut.-General Edwardes, Farningham ; h. c., W. Smith, Shepherdswell ; Rev. G. W. Bancks, Green-street-Green ; and E. Longhurst, Longfield ; com., Miss Griffiths, Westgate, and A. J. Carter, Newfields, Sussex.

Twelve 1-*lb. Jars Extracted Honey.*—1st, E. Drincqbier ; 2nd, Rev. W. R. Nightingale ; 3rd, S. E. College, Wye ; v.h.c., E. Longhurst ; h.c., H. A. O. Grimbly, Minster ; G. J. Wright, Ramsgate ; Mrs. Mascall, Newington ; c., R. W. Wood, Chislet ; Rev. W. R. Nightingale ; The Horticultural College, and E. Smith.

Three Frames of Honey for Extracting.—1st, South Eastern Agricultural College ; 2nd, E. D. Till ; 3rd, E. Longhurst ; h.c., Mrs. Mascall, Newington ; and H. A. O. Grimbly ; c., W. Smith.

Honey Trophy.—1st, E. Longhurst ; 2nd, E. Drincqbier ; 3rd, E. Longhurst.

Single 1-*lb. Bottle of Honey.*—1st, Elvey E. Smith, Southfleet ; v.h.c., W. A. Balcombe, Faversham, Mrs. Mascall ; h.c., E. Longhurst, Rev. W. R. Nightingale, G. J. Wright ; c. Mrs. Richford, H. H. Brice, S.E. Agricultural College, and W. H. Drinkwater.

Single 1-*lb. Section.*—1st, Horticultural College, Swanley ; h.c., H. W. Seymour, Henley-on-Thames, W. Smith, E. E. Smith, Rev. W. R. Nightingale, C. E. Smith, and A. J. Carter.

Beeswax.—1st, E. Longhurst ; 2nd, A. J. Carter ; 3rd, E. Drincqbier ; c., C. Langley.

Mead, &c.—1st, Rev. G. W. Bancks ; 2nd, C. Langley ; 3rd, E. Longhurst.

COTTAGER'S CLASSES.

Six 1-*lb. Sections.*—1st, F. S. Bensted, Newnham ; 2nd, H. Dobell, Marden ; 3rd, J. Friend, Temple, Ewell ; c., F. Langley.

Six 1-*lb. Jars Extracted Honey.*—1st, J. Friend ; 2nd, F. S. Bensted ; 3rd, J. Playford, Staplehurst ; c., F. Langley.

Three Shallow-frames of Comb Honey.—1st, J. Friend.—(*Communicated.*)

Correspondence.

TREATMENT OF FOUL BROOD.

[2553.] The appeal of "East Caister" (No. 2547, p. 266) cannot be resisted by one who, like myself, has gone through a long and weary struggle with the bee-keeper's curse—foul brood. I may be able to help him. As to the present, he may as well let his bees complete their summer work, being careful to remove all supers before there is any chance of robbing. Then I should overhaul every colony and treat them as he has done hitherto. It is not clear how he disinfects his hives. It should be thorough. I scalded mine with a strong solution of washing soda, scrubbing them the while, and, when dry, I lightly charred all the inner surfaces with the scorching blast of a painter's lamp. If the enemy in any stage can stand that it must be invincible.

Now, in this way, "East Caister" may feel fairly sure of getting his apiary apparently free from foul brood by the coming of winter ; but the question is, How is he to prevent its reappearance in next spring or early summer ? Here lies the difficulty, and I firmly believe that in my case it was surmounted by *outdoor feeding* with strongly medicated syrup in the spring. The idea is this—you want the bees to take into every hive a strong antiseptic for general consumption at the time when most wanted—*i.e.*, when young brood is being reared in the spring. In no other way can this be done so well as by outdoor feeding ; for in the greedy struggle between the various colonies the bees will readily lick up syrup so strongly dosed that nothing would induce them to touch it if offered inside their own hives. It must be left to the bee-keeper, aided, no doubt, by the natural instinct of the bees themselves, not to poison his pets by outrageous doses.

I am aware that many good bee-keepers—including, if I mistake not, Mr. Brice—are strongly against outdoor feeding. I hardly know why. Care and personal attention are necessary ; but if these cannot be liberally given, a man may get on very well as a fair-weather bee-keeper, but he need not hope to cure an apiary of foul brood. In the spring of '95, for weeks together, I fed a row of ten hives from an open feeder placed against a wall some ten yards in rear of the middle hive, without any robbing and with a very small loss of bees.

If it be urged that disease may be spread by the crowding together of the bees, I must reply that at this stage of the cure there should be no actively diseased hive in the apiary. It is quite possible that foul brood may be conveyed from bee to bee by personal contact ; but if so, the danger is incurred every time such a bee rifles a flower of its nectar, for she may leave the germs behind her to be caught up by the next bee that follows her. In the feeding I recommend, the great good done by the distribution of the antiseptic may well be taken as outweighing the remote possibility of evil. Should the "free-feed" to a neighbour's bees be a deterrent to the bee-keeper, I have no consolation to offer except that his own bees will have the first chance.

Feed on fine mornings only, and a little at a time. Begin with small doses of the medicine, and increase the strength by degrees. I cannot believe that any particular antiseptic has all the virtues claimed for it, and probably any of the well-known ones which have carbolic acid for a basis, such as phenol, for instance, or

those readily soluble, like "Soluble Phenyle," which is easily mixed with cold syrup as wanted, and the bees take it readily up to a great strength. Use one of those feeders divided off by thin wooden partitions, without the lid, and place it in a dry, sunny, and sheltered spot free from dust, so that any bees which may get smeared with syrup will have a full chance of recovery. In a few minutes the syrup will have been quite consumed; then shake out the remaining bees and remove the feeder. If this be neglected there will be fighting. Very few bees will remain on the field; but even should there be a dozen, more or less, there is no cause for dismay. It is the wear and tear of bee-life. Every fine spring day scores of bees leave the hive never to return. They die in harness, and whether it be by your feeder, in the corolla of a flower, or elsewhere on their busy journey, they are not altogether to be pitied.

The above is the treatment that I believe freed me from foul brood two years ago, and since then I have seen no trace of it. May any who think it worth adopting be as successful. — SOUTH DEVON ENTHUSIAST, *July* 3.

[There can be little doubt that open-air feeding with medicated food is most advantageous in keeping an apiary free from disease if properly carried out in spring. But, unless carefully and judiciously done, it often leads to much mischief. So far as the method, the food must be made much thinner than ordinary syrup; it should be given warm, and the feeder only exposed for a few hours in the middle of fine days, removing it entirely when feeding-time is over. Then the visits of neighbouring bees in large numbers must be taken into consideration; particularly if they come from diseased hives. In short, where foul brood is known to exist in the neighbourhood, it is like tempting Providence to bring about one's apiary hordes of bees from diseased colonies on the look-out for a "free feed."

We grant that the wholesale distribution of strongly medicated food is bound to assist in keeping disease down in all the hives within reach, but it has its attendant risks to the distributor of the food, by way of bringing prowling bees from neighbouring hives about his own colonies, thus opening up an almost certain source of danger.

Our personal knowledge of "South Devon Enthusiast" assures us that in his hands—and it may be with his surroundings—open-air feeding will be safe and proportionately effective, and its dangers minimised; but it is too risky to be recommended for general adoption. This, at least, has been our experience.—EDS.]

ENEMIES OF BEES IN SOUTH AFRICA.

[2554.] Enclosed please find box of insects for identification, and I shall feel much obliged if you can give me some information as to their habits. The larger of the two kinds of insect sent (No. 1) is very destructive to bees here, sitting near to a hive on a stone and catching the bees as the latter fly away from the hive. The hotter the day the more active the insects appear in their work of destruction, and they so intimidate the bees as to make them appear too frightened to leave the hives. I have not been pestered with these insects myself, but other bee-keepers inform me they will soon ruin a hive. The smaller kind of insect (No. 2) does not appear to catch bees, but confines its attention to small flies.

Your BEE JOURNAL and *Record* afford much useful information, although the conditions of bee-keeping are somewhat different here to what they are in England.

The last season here was a very indifferent one, owing to drought, but some stocks do well no matter what the season is.

Besides the insects enclosed, the greatest enemies of the bees here are the birds, especially the large and swift, "bee-eaters," and shrikes, also several varieties which correspond somewhat to the stone-chat in England.

Thanking you in anticipation. — E. T. WILLS, *Queenstown, Cape Colony, June* 1, 1896.

[The insects sent are both wasps (*palorus*). No. 1 is *palorus lepidus*, and attacks not only bees but other insects, carrying them off when caught, and consuming the edible portion of the body of its prey.—EDS.]

DO BEES TRANSFER EGGS?

[2555.] As your correspondent, "South Devon" (2544, p. 264), has opened this question again, may I be allowed to say I had a certain proof recently (to my own satisfaction at least) that bees do remove eggs under some conditions. I bought an Italian queen from Lucio Paglia, and, desiring to raise some queens from her, I, on June 16, deprived a small lot of bees of their queen and all their brood, and next day went to the Italian hive and cut out a piece of comb from bottom of frame (about 3 in. by 1 in.) containing eggs and young larvæ. I then took a frame of comb quite empty (one that has not been in a hive this year) and cut a piece about 3 in. square from the middle of it, fastened the piece containing the eggs in its place and gave it to the bees, along with a frame of food and other frames fitted with starters only. On June 24, when examining for queen cells, I found, to my surprise, the piece of comb had fallen from the place where I fastened it (but was still within the frame) and had only one queen cell on it. On a piece of drone comb in this same frame, however, three queen-cells were formed. There was also some larvæ in the same comb in both worker and drone cells. So, you see, the bees must have transferred the eggs from

which these larvæ were raised from the fallen piece of comb. I examined the hive to-day, July 3, and found all the brood capped over, and some of the Italians just hatched out.—JNO. BERRY, *Llanrwst, N. Wales, July* 3.

HONEY LABELS.

[2556.] I notice that in B.J. of 18th ult. (page 249), you refer to the "Tom Sells" honey-label as being obtainable from all dealers in appliances.

I purchased the copyright of this label, paying a good round sum for it, and the label can only legitimately be purchased of myself or my brothers. I trust you will find space for this correction. I am aware that pirated copies are being sold, and intend to take action against vendors.—JAS. A. ABBOTT (Abbott Brothers), *Merchants' Quay, Dublin, June* 30.

[In stating that the label referred to was to be had from most appliance dealers, we supposed that the latter bought the labels wholesale from whoever sold it so, and retailed them in the ordinary course of business.—EDS.]

BEE-KEEPING IN DURHAM.

TECHNICAL INSTRUCTION UNDER COUNTY COUNCIL AUSPICES.

We understand that Mr. W. Crisp has been appointed by the Durham County Council lecturer on bee-keeping to the Technical Instruction Department of that county, and is at present engaged in delivering a course of twenty-four lectures in the districts of Stanhope and Walsingham. Similar courses of lectures may be arranged for in any other parishes where such are desired, on application to the clerk of the County Council, Durham.

LANCASHIRE AND CHESHIRE B.K.A.

STALYBRIDGE BRANCH.

On Friday last the members of the above and many of their friends assembled to hear a lecture on Bees and Bee-keeping by Mr. W. Jones Anstey, first-class expert, who was invited to give a lecture and demonstration.

Mr. Abel Bottomley presided, and in introducing the lecturer said he was very pleased to see so many present, and informed them that their association was a branch of the Lancashire and Cheshire, and although they had only been in existence about twelve months, they already numbered twenty bee-keepers, and were still increasing their membership.

Mr. Anstey then proceeded with his lecture, which being both interesting and practical, was listened to with the deepest interest, and a number of questions were satisfactorily answered by the lecturer.

At the conclusion, — Fentom, Esq., ex-Mayor of Stalybridge, said he had much pleasure in proposing a vote of thanks to Mr. Anstey. Personally, he felt that his own thanks were especially due, having learned a great deal that evening of things he knew nothing of before. The subject dealt with had been most lucidly and clearly described, and he hoped they might be favoured with another visit from Mr. Anstey. He was glad to say the lecturer was giving a demonstration in bee-keeping on the following afternoon in his (Mr. Fentom's) gardens, and he would heartily welcome all among those present who could attend.

The vote having been heartily accorded, the meeting was brought to a close.

On the following afternoon a still larger gathering met in the beautiful gardens of Mr. Fentom, and Mr. Anstey gave a very instructive demonstration of the art of managing bees, the easy style in which the bees were manipulated giving confidence to the onlookers, some of whom were strange to their ways, and had never seen the inside of a hive before.

At the conclusion, Mr. Fentom and the lecturer were heartily thanked, and the utmost satisfaction was expressed by all present with what they had seen and heard.—(*Communicated.*)

JOHN HUCKLE MEMORIAL FUND.

Referring to the notice of above in our last issue, the following subscriptions have already been received or promised :—

	£	s.	d.
Mr. T. F. Halsey, M.P. ...	1	0	0
Mr. R. Henty	1	1	0
Mr. A. Hughes	0	10	6
Mr. C. H. Little	0	10	6
Mr. E. H. Loyd	1	1	0
Mr. S. Martin	0	10	6
Per BEE JOURNAL :—			
T. W. Cowan	1	0	0
John Walton	0	5	0
W. B. Carr	0	5	0
B. E. Jones	0	2	6

Queries and Replies.

[1501.] *Bees Refusing to Work in Sections.*—One of two hives I have was extremely weak at the beginning of the season, but I examined it about eight days ago and found the brood-frames very heavy with honey and brood. Still the bees do not go up into the sections, although I reduced the number in the rack to about ten sections, all of which have in them comb of last year half worked out. 1. Now that the clover season is getting on, would you advise me to take off the queen-excluder and try if that will bring the bees

up? 2. My second hive has been strong all along, and soon pretty well filled a box of shallow frames, over which, by your advice, I put a rack of sections; but the bees did nothing in them. In consequence, I took off the shallow frames a few days ago and put the box of sections underneath, replacing the frames above. I think the bees are now working in both; but what was my disgust to find the shallow-frame box protruding an inch beyond the section rack. They were both bought at the same shop, and yet we are told everything is made to be interchangeable in modern hives. Is not this so?—J. D. F., *Hooton, Cheshire, June* 28.

Reply.—1. In view of the brood-frames in lower chamber being heavy with brood and honey, the probability is that the queen would accompany the bees into the sections if queen-excluder is removed, and so spoil them with brood. If the section rack is well and warmly packed, so as to allow of no escape of heat, the bees will very likely take possession soon if they have not already done so. It usually only needs warmth, bees, and honey-weather to cause work to be started in a cosily wrapped rack of sections. 2. Interchangeability is very desirable in surplus chambers, but it frequently happens that a box of shallow frames which is, on its lower side, the same size as a ten-frame body-box, will not "sit" properly on a rack of twenty-one sections. This should always be seen to when purchasing, or before using. No doubt we had this in mind when advising you to put the sections "over" the shallow frames.

[1502.] *Uniformity in Hives.—Transferring Bees.*—As a constant reader of your useful journal, will you please instruct me what is the best course to follow with my bees, which are unfortunately in hives of all sizes. Will it be best to shift them into new hives on full sheets of foundation, and start feeding this month, or what would you advise?—A. Flett, *Hanworth, July* 1.

Reply.—If you have hives in which combs of brood removed from other stocks could be hatched out, the bees of such stocks as are intended to be got into proper workable order may be brushed off their combs into a new hive fitted with foundation as proposed, and as soon as convenient. The combs of brood (when cleared of bees) would, as before stated, have to be given to other stocks to hatch out. The comb on which the queen is found should be placed in the new hive, in centre, and feeding begun at once, unless honey is plentiful in the fields.

[1503.] *Swarm building Queen-cells.*—Last Saturday week I hived a swarm on new combs, and on looking at them a week later I found on one comb two queen-cells, both empty. Can you kindly explain the reason of this?—Stanley Waus, *West Dulwich, June* 30.

Reply.—We should suppose that it was not a "top," but a second swarm, and that the young queen got lost on her mating trip. It may be that it was a top swarm, and that the old queen by some means has come to grief; but, as a rule, swarms desert the hive if the queen is not with them. In any case you should see to the bees having a queen, or the colony will be useless for any purpose.

[1504.] *Bees Dying in Front of Hives.—Using Improper Naphthaline.*—1. Do you think the cause of bees crawling in front of hives, apparently unable to fly, and so dying off from cold, is due to naphthaline which has now been removed from top of straw skep several days? 2. Would prepared naphthaline, such as you send out, have had the same effect? 3. Can you advise anything to give the bees as a remedy for the "overdose" of naphthaline got from chemist? 4. Would you advise me to remove the bees from skep into box-hive fitted with foundation (I have not comb to give them), or is it too late in the season for this? They are fairly strong, and I have seen no dead bees removed from hive. But still every day there are more of these poor crawling bees chilling to death on the ground. 5. I have been told since that one ought to use naphthaline specially prepared for bees which is not costive like that bought from chemists. If this is so, surely bee-keepers ought to be warned of this. —Marcus W. B. Osmaston, *Dover, July* 3.

Reply.—1. It may be that the very young bees have got chilled in consequence of bad packing when setting sections on top of skep. 2. We cannot say what the effect of overdosing would be on young bees beyond perhaps causing them to crawl out of hive from aversion to the "overdosing" referred to. 3. Nothing beyond removal of the cause of mischief. 4. Unless bees are fairly strong now and are fed liberally they would not be likely to do well transferred so late from skep to frame-hive. 5. It is surely more reasonable that bee-keepers should themselves take care to procure the kind of naphthaline we recommend, than that we should be constantly uttering the warnings referred to. We only undertook to supply a suitable article to prevent the mischief complained of—and often mentioned in our pages before—and thought this was now well-known to our readers.

[1505.] *Transferring from Skeps.*—I started bee-keeping this season for the first time by buying a stock in skep, and had everything ready to transfer them to the breeding-box of a frame-hive; but, acting under advice, I merely placed the skep in outer-case of the hive and left it there. The consequence was that after a time the bees began to build combs within the case. I have now placed in the breeding-box with the skep on top for bees to transfer themselves. They have been thus for a week, and I should now like to know:—1. Have I acted rightly? 2. Can I take the skep out at the end of three weeks and drive any bees that may not have gone down into

breeding-box? 3. Would any brood be left after the three weeks, and, if so, what would be the best thing to do with it? Or would you advise leaving the skep as it is till next spring? I want to get everything in proper order before the season is over, if possible.—A. E. Ellis, *Weymouth, July* 6.

Reply.—From what took place we should suppose you do not possess a book on bee-keeping, and if this is so, the first thing we advise is to get one, for no one can hope to manage bees well without some guidance. For the rest we answer 1 and 2. Your first act ("under advice") was altogether wrong, as the subsequent event showed, and it is now too late in the season to afford much hope of the bees taking possession of the brood-chamber of frame-hive this year. 3. The bees will no doubt continue breeding in skep, and, as we have said, not transfer the brood-nest below this season. We fear your transferring will have to be deferred till next year unless some reliable bee-keeper, on inspecting the skep and contents, thinks it a desirable case for transferring bees and combs to the frame hive by the ordinary method of driving and cutting out combs.

[1506.] "*Wells*" *Hives and their Management.*—I have a "Wells" hive, one compartment only containing a stock of bees. Unfortunately, there are shallow-frames beneath those of standard size, and only entrances and a fixed porch to this shallow-frame body. This stock being very strong, I propose dividing it by placing half the brood and bees on the other side of perforated dummies; at the same time removing the old queen and introducing a young hybrid queen to each compartment. Of course I can diminish the number of standard frames by removing some and replacing them with dummies; but to do likewise with the shallow-frames below will give me a lot of trouble, and I have no shallow dummies. 1. All things considered, will it be best time to divide stock and introduce young queens when lime-tree blossoms are over? 2. May the bees then have all the shallow-frames left below, and a few standards above? 3. Will the bees winter best with all the shallow bars below? 4. What is the best method of checking wax moth? 5. Is there not great danger—when removing the shallow-frames below in a "Wells" hive—of queens and bees mixing and fighting? 6. May queens when received in travelling cages be detained in them several days before introducing to a stock? 7. What is the space that just prevents a worker bee from passing through it? 8. Can you give me any help in finding queens? I am, I think, naturally quick-sighted, but sometimes have been uncertain as to worker and sometimes drones being the desired queen?—Albert J. Conder, *Ipswich, July* 4.

Reply.—Before replying to queries as enumerated, we cannot promise success in working such a "Wells" hive as the one described. Having, as we learn, Mr. Wells's pamphlet, on the working of his double-queen system, by you, the first desideratum ought to be a hive in which that system can be properly carried out, and however *we* might manage to overcome such difficulties as present themselves in the "Wells" hive referred to, it cannot be easily made clear to one who is manifestly inexperienced in bee-management. Having said this much we reply as follows:—1. Seeing that it is now the second week in July the sooner the attempt is made to establish two colonies from one the better. 2 and 3. *We* should have the shallow-frames away from below before dividing the colony at all. 4. Keeping stocks strong will prevent moths getting a foothold, but a few pieces of naphthaline placed among the quilts is also helpful. 5. Yes, very great danger indeed in any but skilful hands. 6. Though queens will live for several days in properly-prepared travelling cages it is not wise to keep them so any longer than is absolutely necessary. 7. A shade under $\frac{3}{16}$th of an inch. 8. Only practice will enable any one to pick out queens readily. There is no rule that can be stated in words beyond saying that size and general appearance enables a quick eye to detect a queen with ease.

[1507.] *Making Artificial Swarm from Skeps.*—For the past four or five weeks I have had a skep "hanging out" near to swarming, but failing to "come off," and so, losing all patience at their delay, I drove them on Saturday, along with the bees of two other skeps, and united the lot in a frame-hive. Just as I had completed the affair, and was about to refresh with a cup of tea, I noticed a bee with sluggish flight hovering round me. It proved to be a queen, for after some trouble I captured her, and was much surprised at the circumstance. In driving I saw neither queen (besides this one) and have searched in vain for queen-cells in the skep from which the swarm appeared about to depart. I therefore ask:—1. Is it usual for the queen to take flight, as this one had done? 2. Did I do right in putting the queen into a queenless hive, leaving the chance of there being two others with the driven bees? I have not yet looked for a queen in the frame-hive, but I see to-day they have five full frames of foundation drawn out and honey stored. I am very pleased with the new "Guide Book," and note the many and useful hints it contains.—W. H. Murch, *Glastonbury, July* 1.

Reply.—1. After three lots of bees have been driven and united it would not at all surprise us to see a queen on the wing, though it cannot be called "usual." 2. Yes, just what we should have done ourselves, unless a spare queen was badly wanted, in which case the presence of a queen with the driven bees would have been assured before giving them the stray one.

[1508.] *Increasing Stocks.*—I have three stocks of bees and am anxious to increase them to four. I do not want to disturb the bees until after the honey flow, *i.e.*, the middle or end of this month, when I should like to make an "artificial swarm," as described in query No. 1500, p. 268, in last week's issue of the B.B.J. But it appears that a requisite for success is that the operation be performed in the swarming season. Would you kindly advise me whether this course would be practicable now? Or, if not, is there any alternative method of increasing my stocks?—R. DYMOND, *Southgate, July* 6.

REPLY.—The end of July is late for making artificial swarms (which means getting queens mated in mid-August); but there need be no difficulty in making up a fourth stock from three on hand at the cost of trifle for a surplus queen. These may usually be had at "driving" time for a couple of shillings. With such a queen it only needs to take a couple of combs from each of the three stocks, cage the queen on one of them, and make a nucleus swarm as described on page 268.

WEATHER REPORT.

WESTBOURNE, SUSSEX, JUNE, 1896.

Rainfall, 1·75 in.	Sunless Days, 1.
Heaviest fall, ·59 on 12th.	Above Average, 43·3 hours.
Rain fell on 12 days.	Mean Maximum, 67·4°.
Above average, ·08 in.	Mean Minimum, 49·8°.
Maximum Temperature, 79° on 14th.	Mean Temperature, 58·6°.
Minimum Temperature, 38° on 1st.	Above average, 1·1°.
Minimum on Grass, 31° on 1st.	Maximum Barometer, 30·35° on 29th.
Frosty Nights, 0.	Minimum Barometer, 29·37° on 9th.
Sunshine, 263·4 hours.	
Brightest Day, 1st, 15·1 hours.	

L. B. BIRKETT.

Bee Shows to Come.

July 14 and 15.—At Gainsboro', in connection with the Lincolnshire Agricultural Society. Bees, honey, and bee-appliances.

July 20.—*Change of Date.*—Home Park, Windsor. Windsor District Berks B.K.A. show of bees, honey, and appliances, in conjunction with the Prince Consort's Association. For schedules apply Mr. W. S. Darby, Consort Villas, Clewer, Berks. Entries close July 13.

July 22-23.—At Longton. Staffs B.K.A. in connection with the annual exhibition of the Staffordshire Agricultural Society. Show of bees, honey, and appliances.

July 24 and 25.—Bristol, Somerset and South Glos. B.K.A. shows at Knowle. Also at Henbury, July 29.—Entries close July 17 and July 22. Schedules from Miss Dawe, Hon. Sec., Long Ashton, near Bristol.

July 23, North Norfolk B.K.A., Annual Show at Melton Constable Park. Entries close July 16. Schedules from C. J. Cooke, hon. sec., Edgefield, Melton Constable.

August 1.—Helsby, Cheshire. Special class for one 1 lb. jar of extracted honey. Entries close July 18. Dr. Briant, secretary, Helsby by Warrington.

August 3 (Bank Holiday).—Berks B.K.A. (Newbury District), in connection with the Flower Show. Twelve classes. Liberal prizes. Special open class for comb honey. Entries close July 31. Schedules from W. Hawkes, Hon. Sec., Newtown-road, Newbury.

August 3 and 4.—At Delapre Park, Northampton, Northants B.K.A. Annual Show. Eight classes for honey and five "special prize" classes open to all. Entries close July 28. Schedules from R. Hefford, Secretary, Boughton, Northampton.

August 5 and 6.—Chester Horticultural Show and Fête. Exhibition of honey, hives, and bee-appliances. To be held on the Roodee. Liberal prizes. Schedules from J. Wynne-Ffoulkes, Crypt-chambers, Chester. Entries close July 23.

August 7.—At Strathpeffer, N.B. Strathpeffer and District Horticultural and Bee-keeping Society. Ninth annual show, which includes bees, hives, and honey. Schedules of prizes from J. H. Bisset, Schoolhouse, Fodderty, Dingwall.

August 13.—At Goole, in connection with the Agricultural and Horticultural Show. Bees and Honey. Entries close August 8. J. Luddington and H. S. White, secs., Lindum House, Goole.

August 15.—South of Scotland B.K.A. Annual Show at Dumfries. "Burns Centenary" classes open to all-comers. Schedules now ready. Entries close August 8. James Kerr, Secretary, Douglas-terrace, Dumfries.

August 22, at Royton, Lancashire.—The Royton Agricultural Society, in connection with the Manchester and District Bee-keepers' Association. Entries close August 15. Schedules from A. S. Ormerod, 37, Rochdale-road, Royton, Lancs.

September 8.—At Moorgreen. Notts B.K.A., in connection with the Greasley, Selston, and Eastwood Agricultural Society. Open class for a 1 lb. bottle of honey. Schedules ready. Apply Geo. Hayes, Mona-st., Beeston, Notts. Entries close August 29.

September 9 and 10.—At Derby. In connection with the annual show of the Derbyshire Agricultural Society. Fifteenth Annual Show of the D.B.K.A. as above. Liberal prizes for bees, hives, and honey. Six of the eighteen classes are open to all comers. Schedules from F. Walker, Cattle Market, Derby.

September 16.—Wotton-under-Edge B.K.A. Annual Show of Honey. In the Church Mill. Schedules from E. W. Read, Hon. Sec., Wotton-under-Edge.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

W. NORMAN (Bridport).—*Transferring Bees.*—It is probable that the queen will go down into the frame-hive, and an examination should therefore be made every few days until either the queen or eggs in the cells are seen in the hive below. When it is made clear that breeding is going on below, excluder zinc should be put on and skep placed above it, and left there until all brood has hatched out. Should the queen, however, not take possession of the lower hive, the bees must be driven as mentioned.

G. G. (Honiton).—*Harvesting Honey.*—1. It is now too late to give foundation in surplus-chambers and expect it to be drawn out and filled this season. 2. Sections in bulk are invariably sent out in the flat; the foundation being fixed in them according to the various makes, which include split top-bar, grooved on all sides, single grooves at top, and plain ones without any grooves at all. The "Guide Book" gives full information on all these points.

M. U. G. (Wellington).—*Transferring Bees from Skep to Frame-hives.*—The sooner this is done the better now that the honey season is drawing to a close. Some trouble must, however, be taken to get any brood found in comb after driving bees hatched out in an extemporised box set above frames in the new hive, and warmly packed till the young bees have come forth from the cells. (We had 2d. postage to pay on your letter.)

SCHOOLMASTER (Sheffield).—*Black Bees Cast Out.*—Bees like those sent are occasionally found in hives, not born members of the colony in which they are found, but really belonging to other hives. These "black shiny" bees give up honey gathering and develop just such persistent stealing habits as are found in wasps. The pulling about they receive, by bees trying to stop them from helping themselves to stores they have had no hand in gathering, robs them of their pubescence or hairyness, hence the black "shiny" appearance they always bear. You can do nothing with them.

C. THOMPSON (Pickering).—*Cane for Skep-making.*—Perhaps some reader will kindly inform our correspondent where, and at what price per lb., cane for skep-making may be bought.

W. CRISP.—The communication referred to did not appear because of its not being couched in quite suitable terms for print. Anything of that kind should come in our correspondence column as a letter, and with writer's signature at foot.

F. R. LITTLE (Wellington).—1. Bees are of the common or ordinary kind, and only noticeable for their small size. Being so vicious, we should re-queen them. 2. 47 lb. in section is a fair average take. 4. Brace-combs are not wholly preventible, but the evil is minimised by allowing only a bee-space $\frac{1}{4}$ in. between super and top-bars of brood nest.

W. C. H. (South Devon).—*Expert Help Wanted.*—We know of no expert in South Devon, nor is there any Bee Association for that county. Perhaps some one of our readers might be willing to help a beginner.

G. M. SAUNDERS (Keswick).—*Swarms at the Heather.*—1. Only established stocks or combless swarms must be subjected to the risks of a journey to the heather. To attempt taking a swarm on tender, just-built combs would entail an almost certain break-down. If you could unite and take a couple of good lots of driven bees, and put them on full frames of foundation after reaching the heather it would be quite safe, and if season turns out a good one they would do well. 2. Put some holes at ends of body-box as in surplus-chambers.

ENTHUSIAST (Stonehouse).—*Wasps' Nest for Exhibition. Moving Bees.*—1. The wasps will require to be killed by exposing them to either burning sulphur fumes, or of cyanide of potassium. A shade over the nest to keep in the fumes will be needed to ensure suffocation. 2. It is always best to move bees long distances in frosty weather, and when the combs are as free from brood as possible.

H. B.—*Treating Foul Brood.*—1. So long as the disease is kept in check by the remedies used and treatment adopted, there is every encouragement for continuing, and if you would like to give a fair trial to the "Bertrand Fumigator," which has proved very effectual in careful hands—we will be very pleased to lend you ours. 2. The combs would be safe to use if sprayed with one of the solutions named in "Guide Book."

D. S. (Dover).—*Cane Sugar for Bees.*—Pure cane sugar may be obtained through this office at prices which appear at intervals in advertisement pages.

J. W. LAIDLAW.—1. Comb is affected with foul brood of old standing, but not of a very bad type. 2. The restlessness of bees while raising queen is quite normal.

SOUTH DEVON (Newton Abbot).—Honey sent is largely mixed with honey dew, and will not sell for table use in consequence.

A. H. YOUNG (Southport).—*Suspected Foul Brood.*—It is quite impossible for us to give any opinion as to the healthiness or otherwise of the fifteen stocks on hand without having a sample of comb containing brood from one or more of the hives suspected. The natural inference, however, is that any colonies doing so well as to be "working in four surplus chambers" are very healthy indeed.

H. A. CABB (Wickham Market).—Comb contains nothing worse than healthy pollen. Some of the bees sent are hybrid Carniolans, and one a fairly-marked Ligurian.

F. G. (King's Lynn).—Foul-brood is rapidly developing in comb sent.

H. W. (Higham Ferrars).—Comb is touched with foul-brood, slightly, it is true, but there without any doubt. If bees are strong, you might try the plan proposed, but we cannot add anything (so far as treatment) to the article which appeared in our pages a few weeks ago on that subject.

INQUIRER (Moresby).—If box with postmark, "*Parton*," is yours, the answer to "H. W.," above will apply to your case. Name and address should always accompany samples.

W. W. SULIVAN (Longford).—Your letter will appear next week.

Special Prepaid Advertisements.

Situations, Publications, Bee Plants, &c. — Up to Twelve words, Sixpence; for every additional Three words or under, One Penny.

THIS Season's Fertile Native QUEENS. 3s. by post. SALMON, Bee Expert, Lower Tuffley, Gloucester. M 55

WANTED, Good HONEY EXTRACTOR; maker's name; lowest price. F. G. KIRKBY, 123, Arundel-street, Sheffield.

WANTED, BEES or APPLIANCES. EXCHANGE two Turbit Cocks, short thick beaks, &c., stretch, and ropers. STOBO, Low Fell, Gateshead. M 59

ITALIAN (Ligurian) QUEENS. Price for July, 6s. 6d. each; English, 3s. 6d.; Hybrids, 5s. 6d. Carriage paid and safe arrival guaranteed. W. B. WEBSTER, Binfield, Berks. M 56

WANTED, Swarms of LIGURIANS. EXCHANGE Black Rosecomb Bantam Cock, a perfect gem; took v.h.c. recently in strong competition; and black and red Hen. LEWIS LEE, Tiverton, Devon. M 58

WANTED, HONEY EXTRACTOR and RIPENER. EXCHANGE Prize-bred Pedigree Spaniel Puppies, ten weeks, or sell 20s. each. THOMAS, Trevethan-terrace, Falmouth. M 61

"HONEY AND ITS USES," 1½d.; 3s. 6d. per 100. Also "MEAD, AND HOW TO MAKE IT," and "VINEGAR FROM HONEY," each 2½d. Small sample bottle of Honey Vinegar, 7½d. Rev. GERARD W. BANCKS, The Green, Dartford. M 57

FOR SALE, EXTRACTOR, thorough working order, cost 35s.; sell 21s. Also large Iron Fly-wheel, fitted with shaft, for amateur sawbench or lathe; cost 25s.; sell 10s. Both delivered Lynn station. CARRITT, South Wootton, King's Lynn.

STOCKS, Nuclei, Swarms, and Queens.—Address, Rev. C. BRERETON, Pulborough, Sussex.

TO BE SOLD, Cheap, 7 old STRAW HIVES, 2 old Wood Hives, 4 New Swarms. Apply, H. WILSON, Grocer, Methley, Leeds. M 53

WANTED.—New SECTIONS, first quality, prompt cash. Also Beeswax and extracted Honey. Manager, Southdown Apiaries, Bexhill, Sussex. 197

LACE PAPER for GLAZING SECTIONS. 100 strips, 7d., 200, 1s. 2d., 300, 1s. 6d., 500, 2s. 3d., 1,000, 4s. Post free. Best quallty. Neat patterns. W. WOODLEY, Beedon, Newbury.

Prepaid Advertisements (*Continued*)

WANTED, SECTIONS, EXTRACTED HONEY, and WAX. Packages lent free to Bee-keepers and Associations. Prompt cash. State lowest price. Address Rev. W. HANDCOCK, Hampton Hill, Middlesex. M 15

RELIABLE QUEENS of 1896, Natives and Hybrids (Ligurian and English). Prolific laying Queens, 5s. 6d.; Virgin Queens, 3s. Sent post free in my introducing cage. Safe arrival guaranteed. Orders filled in rotation. HENRY W. BRICE, The Apiary, Thornton Heath.

KEELE (STAFFS.) AGRICULTURAL AND HORTICULTURAL SOCIETY.

SIXTH ANNUAL SHOW,

Thursday, Aug. 6th.

Cattle, Horses, Sheep, Poultry, Pigeons, Dogs.

OPEN AND COUNTY BEE AND HONEY SHOW.

Entrance Fee, 1s. each Class.

Schedules of W. A. BENSON (Sec.), Silverdale, Staffs.

CREATING A HONEY MARKET.

LEAFLETS BY MOST ADVANCED SCIENTISTS.

See Editor's Article in *British Bee Journal* of 18th June, 1896, recommending these Leaflets, "Honey as Food," to Bee-keepers for distribution.

Send P.O. value 1s. for packet of Leaflets,

T. HOLLIDAY, Astbury, Congleton.

SWARMING SEASON, 1896.

Why Bee-keepers use the Patent Hinge Plate SELF-HIVER!

Because it is the only one in the WORLD that has been PROVED and found to be a Success!!

Send post-card for Leaflet to G. W. HOLE, Patcham Sussex.

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WHOLESALE MANUFACTURER of BEE APPLIANCES

ACAIN THE MOST SUCCESSFUL EXHIBITOR.

Making 14 consecutive years prize taking at the 'Royal.'

THREE FIRST PRIZES, including Appliances,

Several Second, Third, and Highly Commended.

SCREW-CAP HONEY BOTTLES,

English Make. Cheap. Clean. Handy.

16-oz. size, per 10 doz., 12/9; 8-oz. size, per 6 doz., 7/-. Packing free.

"EXPERT SMOKER" STILL THE BEST.

Both hands at liberty to work frames.

EASY to LIGHT and KEEP ALIGHT.

W. T. GARNETT, Steade Road, Sheffield.

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(PROVISIONALLY PROTECTED.)

MADE by the A. I. Root Co., Medina, O., is sold to Dealers only through

WM. BOXWELL, Patrickswell, Co. Limerick,

who is also Wholesale Agent for ROOT'S WHITE EXTRA POLISHED SECTIONS, a consignment of which has now arrived at London.

The above goods are sold to the public by Messrs. J. H. Howard, Holme; D. Raitt, Blairgowrie; G. Rose, Liverpool; J. Lee & Son, London; W. P. Meadows, Syston; J. S. Greenhill, Wimbledon.

Editorial, Notices, &c.

USEFUL HINTS.

WEATHER.—It cannot be truly charged against the weather just now that it is adverse to bees or to honey gathering. Unfortunately, however, for many, the forage is for the most part gone; consequently, heat and sunshine will avail us nothing in filling honey tanks, and most southern bee-keepers will need to be content with such results as are already secured. No doubt better and more satisfactory accounts will be heard from districts further north. Lincolnshire, for instance, we are told, has had a fine honey-crop from clover, which is also yielding nicely in some other parts of the Midlands, and thence northward. From the southern Midlands and nearer south, however, the weather has, on the whole, been against a big crop, the limes having, at the last, failed to do anything towards redeeming the season from one of "fair only." Referring to the lime honey—which is in some years so helpful in the south—it has been curiously disappointing in the several counties close on to the Metropolis. The trees everywhere showed a profusion of blossom-buds quite abnormally early in the season; but the bloom "hung fire," as it were, for an unusually long time, and when at last the hanging bunches of blossom did expand, the bees, for some reason, quite neglected what to us seemed a veritable feast, but what, in their superior wisdom, they, no doubt, knew to be nectarless flowers. Later on the green-fly got possession, but the bees were fortunately still shy of the limes, and the sticky exudation with which the leaves were covered fell to the ground in such quantities as to present the appearance of a heavy fall of dew. No doubt many would much rather see it there than harvest supers filled with honey-dew. However, the end soon came, for, in the shortest time within our recollection, the blossom "set," and in our neighbourhood the lime harvest is practically nil. It may or may not chance that the same result has occurred elsewhere, but the above comprises our experience of the limes in '96.

DEPOSING UNSATISFACTORY QUEENS.—At this season there will be little difficulty in gauging the qualities, bad and good, of the respective queens heading the various colonies worked during the present year. Our best queens are valued simply for the all-round qualities of their progeny, while the mothers of unsatisfactory stocks are regarded in an exactly opposite light. This is as it should be. The survival of only the fittest is a law to be ruthlessly applied by the bee-man, and no scruple felt at "pinching" any queens proved to be of no real use in the apiary. In a word, good queens are a *sine quâ non* to a good bee-keeper, and the time is now at hand for deposing and replacing all unsatisfactory ones by either raising, begging, or buying. If you have time and ability for the task, rear queens; if a friend has more than he needs, go a-begging; and if other conditions favour the remaining alternative, buy from a reliable queen-raiser. But in any case do not neglect or overlook the importance of getting a good queen safely domiciled in every colony before the season closes.

Apart from the "queen" question, however, attention should be given to every hive in the apiary which during the past year has failed to make progress in comparison with contiguous colonies. There may be a dozen reasons for failure, but the actual cause should, if possible, be ascertained and remedied. Combs may be old, dirty with age, misshapen, or pollen-clogged. Worse than all, foul brood may be spreading within the hive, and where this is the case it is downright folly to put up a stock so affected for wintering among a lot of healthy ones. But be the cause what it may, do not pack the bees of non-prospering colonies away for winter without an attempt to remedy the failure.

GRANULATION OF HONEY.—The considerable variation in time during which honey will remain liquid is a constant source of puzzlement to bee-keepers, and the cause of a regular repetition of the inquiry, how long a time elapses before honey granulates or becomes solid? Those who have had much experience of the matter, however, know that the length of time cannot possibly be fixed. A fairly accurate calculation may no doubt be made, under certain circumstances, by those who have handled honey gathered

in various districts where special kinds of bee-forage are regularly grown, as to whether a particular crop is likely to granulate soon, or keep liquid for a year or so. But it is little beyond a more or less safe guess in any case: a guess ventured upon in view of the weather conditions at the time of gathering and the source from whence the honey is obtained. This is about all that can be done in "timing" granulation without the need for dipping more deeply into the science of the subject than the ordinary bee-keeper cares to do.

We may, however, just touch upon the scientific view of the question by observing that honey consists of two distinct saccharine portions, viz.: dextrose (grape-sugar)—this may be termed the crystalline portion—and levulose (fruit-sugar), which is incapable of crystallisation. Chemically, however, these two substances, though dissimilar in the respect mentioned above, are identical in composition. Both containing particles of carbon, hydrogen, and oxygen in the proportion of six to twelve to six; the chemical formula being $C_6 H_{12} O_6$. They are also identical in most of their chemical reactions, while possessing widely different physical properties. The crystalline portion (dextrose) turns a ray of polarised light to the right, and the non-crystalline (levulose) turns the polarised ray to the left. The great bulk of normal honey consists of almost equal parts of dextrose and levulose—or invert sugar as it is usually called—water, and a minute quantity of formic acid; but the actual proportions sometimes vary, and, according to the source from whence the nectar is gathered, one may predominate over the other, thus either retarding or accelerating granulation. Another cause of variation in the time during which honey granulates may be brought about mechanically, as it were; as whenever it happens that honey, while in the comb, begins to granulate, and is afterwards extracted, some portion of the crystals may remain behind in the comb, thus causing the non-crystallisable sugar (or levulose) to predominate. Such honey—from which the dextrose is partially separated—will, no doubt, remain liquid for a long time.

The widely-varied action of time so far as affecting granulation, is also shown by noting its effect on honey gathered from different sources. To illustrate the point let us take two types of honey, each having distinctly different characteristics in this line, viz., that from white clover and from mustard. Clover honey—collected in a good season for that product, *i.e.*, one of continuous warm, dry weather during the gathering time—will, if well kept in a suitable place, generally retain its liquid condition for one or two years (often more) without any appreciable deterioration in quality, whether in comb or in jars. (Within the last few days we partook of a section of clover honey gathered in 1894, the condition and quality of which was simply perfect in every respect.) But the same variety of honey gathered under different weather conditions will, in some seasons, granulate before the end of the same year.

On the other hand, honey from the mustard-fields of Lincolnshire, gathered in the finest and driest of weather, will become quite solid in a couple of weeks after being extracted. The difference, then, in time of granulating largely depends on the component parts of the honey dealt with, and for the rest upon the weather condition at the time of gathering. And these facts should make clear the impossibility of fixing the time for granulation by rule of thumb.

Regarding the temperature for keeping comb honey liquid as long as possible, about 65 to 75 deg. is generally considered best for the purpose. To store it either at a much higher, or at, say, ten degrees lower than the temperature stated is not nearly so effectual as a preservative.

But the keeping properties of extracted honey are largely dependent on the bee-keeper himself, so far as knowing what samples are likely to remain in good condition, and those in which fermentation is sure to be set up if kept beyond the season in which they are gathered. Thin honey—we mean thin when extracted—never keeps well. Moreover, the watery portion which rises to the top of honey in bulk, should never be mixed along with that intended for keeping. A small portion of such thin watery stuff, instead of being itself ripened by blending with ripe honey of good consistency, will rather tend to spoil the lot by setting up fermentation.

"A Novel Bee-smoker."—It may be remembered that there appeared in our issue of March 19 an illustrated description of a bee-smoker shown at the conversazione of the B.B.K.A. by the Chairman. Very soon afterwards several inquiries were made as to where the appliance could be purchased. As a result of these inquiries we communicated with the maker on the Continent, and in the end obtained a supply of the articles, not exactly like the one shown on the occasion referred to, but of a larger make, suitable for burning the ordinary fuel used here in lieu of tobacco with which the smaller one was charged for use. To cheapen the cost of carriage we got a few more over than were actually ordered, and these we will be very pleased to forward to applicants, so long as they last, at 3s. 6d. each post free. This price does not include the adjuncts for spraying with insecticide or other liquids; these extras not being considered necessary for bee-keepers' use. They may, however, be ordered for 9d. extra.

BRITISH BEE-KEEPERS' ASSOCIATION.

The monthly meeting of the Council was held at 105, Jermyn-street, S.W., on Friday, July 10, Mr. Cowan occupying the chair. There were also present the Hon. and Rev. Henry Bligh, Messrs. R. T. Andrews, W. Broughton Carr, W. O'B. Glennie, W. H. Harris, J. H. New, E. D. Till, with J. M. Hooker (Kent B.K.A.), R. Hamlyn-Harris (Bristol B.K.A., *ex-officio*), and the secretary (Edwin H. Young).

The minutes of the meeting held on June 12 were read and confirmed.

Letters of regret at enforced absence were read from the Baroness Burdett-Coutts and the Rev. G. W. Bancks.

The following new members were elected, viz., Professor J. R. Ainsworth Davis, University College, Aberystwyth; Mr. John Barnes, 78, Pendle-street, Blackburn.

Mr. Cowan presented the report of the Finance Committee, recommending payment of various accounts, including the prize moneys awarded at the recent "Royal" Show; and, on the motion of Mr. Harris, seconded by Mr. Carr, the recommendations of the committee were agreed to.

The results of examinations for third-class expert certificates at St. Ives, Cornwall, and at Leicester, were made known to the meeting by Mr. Cowan and Mr. Carr respectively.

The Chairman, as steward of the department, reported favourably upon the show of honey and appliances recently held at Leicester, which certainly proved to be one of the most interesting and attractive features of this ever increasingly popular exhibition. It was satisfactory to be able to report that the whole arrangements passed off without a single hitch.

A discussion ensued relative to simple packages for transit of honey by rail to or from shows, &c., and a sub-committee was appointed to draw up suggestions in regard to the matter.

Mr. Cowan stated that, in an interview with Major Craigie, the latter had promised to consider the matter of the collection of statistics by the Inland Revenue Department relating to the bee-keeping industry in the country. On the motion of Mr. Till, seconded by Mr. Harris, a vote of thanks was accorded to Mr. Cowan for his trouble in preparing the leaflet on "Foul Brood" for issue by the Board of Agriculture. The Council then adjourned till September 10.

IRISH BEE-KEEPERS' ASSOCIATION

The Committee met on the 2nd inst., Mr. Read in the chair. It was resolved that an examination for experts' certificates should be held in the latter half of September at the Instructive Apiary on the Model Farm of the Commissioners of National Education at Glasnevin. Special arrangements were made for the examination of those attending the Association's lectures at this apiary, and it was resolved to increase the number of stocks there.

HERTFORDSHIRE BEE-KEEPERS' ASSOCIATION.

The first annual general meeting of this Association, as newly constituted, was held on Thursday, July 9, within the Hatfield Horticultural Society's show grounds. Though the attendance of members was limited, considerable interest was shown and the business of the meeting carried through satisfactorily.

The committee would be very pleased to receive the names of bee-keepers in the county wishing to join, and if they will communicate with the Secretary, 14, Essex-road, Watford, copies of the rules, together with the privileges of membership, will be forwarded them at once.

The Secretary would also be glad to have the names of experienced bee-keepers who are willing to act as local secretaries or advisers in their respective districts.

The thanks of the Society are due to the Rev. Lord William Cecil and Messrs. F. C. Harrison and J. Gregory for their assistance and interest on the occasion.—(*Communicated.*)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

[2557.] The opening of July was anything but genial for bee-work; winds, boisterous as a March gale, with showers of rain and cold enough to confine bees indoors. All this while the lime blossoms were spending their sweetness in vain so far as the honey-bee was concerned. On the 5th a change for the better occurred and the bees worked hard and long. They have also worked well on the limes for a week past, adding considerably to the number of finished sections. I don't remember a greater profusion of lime-bloom than this year. A sprinkling of white clover, too, has made a fair show in some fields, and by footpaths and road-sides; there has also been plenty of blackberry-bloom where allowed to grow. The present fashion of closely-clipped hedges, however, curtails the bloom of this plant and also of the "May-blossom" in this district.

I notice that the quality of super-foundation is still engaging the attention of bee-keepers. So far as this season's foundation, I have myself nothing to complain of. A parcel from one maker, however, had white paper between every sheet, and the said paper was "weighed in" as foundation. Now, however necessary it may be from the dealer's point, I do not consider it necessary to weigh paper as wax at a good price per lb. even to prevent the sheets sticking together; and it is not fair to customers.

Now that the crop is harvested, attention will be concentrated on the sale of same at best prices obtainable; these best prices are generally secured in the "home market," and every endeavour should be made to extend this market and foster a taste for home-grown honey. The output increases every year, and a glutted market makes prices rule low; hence the urgent need for extending the consumption. If the bee-industry suffers it is not from over-stocking but under-consumption. Let us educate the multitude to eat honey as food and use it as medicine in many diseases. How to start a home honey-trade may seem difficult to some, but the first thing is to let neighbours know that you have honey for sale. This can be done either by advertisement in the local paper or by distribution of leaflets on "Honey and its Uses." Then there are neat transparencies for display in your window, if your house faces the road. These can be seen by day, or after dark by lamp-light in the evening, and will set tongues wagging and bring some customers. Particulars of all these things and where obtainable may be gathered from the advertising pages of the B.B.J. I feel sure that, with a little push, bee-keepers with a few hives may sell all their produce in this way, while those owning a dozen or more hives may develop a growing trade at a good price in the provincial towns around them by inducing grocers, chemists, confectioners, dairymen, and fruiterers to stock a few sections and jars of honey

Here, again, is an opening for Mr. Rose to publish a neat window bill, lettered:—"Pure English Honey, from the Apiary of Mr. or Mrs. ——, Sold Here." These might be supplied to tradespeople, and would call attention to the fact that the honey was produced in the neighbourhood. Then, again, the placards also give a continuous free advertisement of your apiary and product, which tells in due course. The honey trade will surely grow if only that of uniform good quality is put up for sale at one fixed price, second quality being sold at a correspondingly lower price.

The bee-keeper who hopes to succeed in establishing a market, must put his honey up in a commercial package. Sections may be put in either tin or cardboard boxes glazed both sides. The only objection to this method is the cost, which should be kept down in every possible way. So far as I know, there is only one alternative plan that is cheaper and yet efficient, *i.e.*, by glazing each section. But this is a big job, and means close application to work for many hours, or even days where a good quantity of honey is produced. The question may be asked, "Does it pay?" I say yes! And I will try to show how:—It pays, 1st, by improving the appearance, *i.e.*, making the honey more presentable to the buyer; 2ndly, by protecting the honey from contamination with strong-smelling articles standing close by, also by preserving its purity until sold.

Then, to sum up. The materials for glazing, &c., can be had at a cost of about 6d. per dozen sections; and as honey, when glazed in lace paper, will be equal, if not superior, to the sections put into cases, you can charge 1s. per dozen more for glazed than unglazed sections, thus having 6d. per dozen for the labour of glazing, and enabling you to sell the honey, with the same profit to yourself, at 1s. per dozen less than if put up in cases.

There are not many bee-keepers who produce the quantity of comb-honey I do myself. There are probably fewer still who possess a wife that will stick to the work of glazing sections—week after week as orders come in during the greater part of the year—as I am proud to say Mrs. Woodley does. This is one of the secrets of my successful bee-keeping.—W. Woodley, *Beedon, Newbury.*

SCOTTISH B.K.A.

SUCCESSFUL MEETING IN GLASGOW.

[2558.] A meeting of bee-keepers interested in the reorganisation of S.B.K.A. was held at McInnes Hotel, 12, Hutcheson-street, Glasgow, on Wednesday, July 8, at 3 p.m. There was a good attendance. Mr. James Johnston, Touch, Stirling, was voted to the chair. The chairman then called upon the Rev. Robert McClelland (secretary, *pro tem.*) to make a statement. Mr. McClelland began by pointing out the noble work done by the Pioneer Bee Society, the Caledonian, and specially referred to the efforts of R. J. Bennett, Esq. He then mentioned the important work inaugurated by the S.B.K.A., the zeal and munificence of Sir T. D. Gibson-Carmichael, and the marked ability and untiring energy of Mr. John Wishart in connection therewith. At the same time he pointed out certain defects and mistakes which the existence of the S.B.K.A. had brought to light, and which would be avoided in future. These were very fairly set forth in the article in a recent issue of the BRITISH BEE JOURNAL. The questions before them were these: Was a National Association necessary? Would such an Association find proper support? And, if so, how was the thing to be done? Mr. McClelland showed most conclusively that there was never more need of the S.B.K.A than now, that it never had a better chance of succeeding than at present, and indicated the main lines of action to be taken. Thereafter a conference took place, in which every one present had a part. It was unanimously and most enthusiastically agreed to continue the S.B.K.A., and for the present to adopt its constitution and rules *en bloc*. A very strong executive committee from those present, and including the former members of committee, was appointed to act with Mr. McClelland in the work of reorganisation. It was hoped that an autumn exhibition of bees, hives, and honey might be arranged in connection with the Caledonian Horticultural Society in Edinburgh. Meantime, bee-keepers and bee associations throughout Scotland, and friends south of Scotland, are most earnestly requested to send their names and such personal subscriptions and collections from others as they can gather to the hon. secretary, Mr. McClelland. A very special financial effort is needed at once. Letters promising help and offering handsome subscriptions were read. The meeting was graced by the presence of ladies.—ROBERT MCCLELLAND, *The Manse, Inchinnan, Renfrew, N.B.*

THE BEE-STING AND ITS ANTIDOTE.

[2559.] On the afternoon of July 5 I watched one of my hives turning out the drones; is not this unusually early? and do you think that it may be in consequence of an old drone-breeding queen? I have about thirty hives in all, and none of the others have as yet commenced the execution of the masculine innocents. It has been frequently asserted that when a bee inflicts a sting it thereby loses its life. I observed the drone-killing business for at least an hour: a few escaped, but the majority were stung, and fell lifeless over the alighting board, the executioner, in every instance, so far as my observation went, flying away to all appearance uninjured. When a bee inflicts a sting it usually leaves its weapon behind with the poison-bag attached; ignorant bee-keepers seize the latter between finger and thumb in order to pull out the sting, thus squeezing the poison-bag, and giving themselves a double dose of its contents. When manipulating bees, have a small bottle of strong solution of ammonia (liq. ammon. fort. of the British Pharmacopœia) in your waistcoat pocket; the instant you are stung apply a drop or two of this solution, then take a knife and scrape out the sting without squeezing the poison-bag. The success of this operation depends entirely upon its immediate application. It is, therefore, not a question of minutes but of seconds, and the remedy must be at once to hand if it is to be of any good at all. The bee-poison is chiefly, if not entirely, due to formic acid, so called because it was first obtained from the red ant (*Formica rufa*). This acid also exists in the leaves of the common stinging-nettle (*Urtica urens*). It would be interesting to know whether a bee, having parted with its sting and poison-bag, is ever able to reproduce the same during the short period of existence which is allotted to it.

That the bee dies after stinging is an undeniable fact, but whether *post hoc*, or *propter hoc*, is a question which I think is not yet satisfactorily determined.—R. K., *Spalding, July* 10.

[The casting out of drones from the hive referred to was a safe indication that all idea of swarming or of queen-raising by that particular colony is over for the present season. Drones, however, are far less frequently *stung* to death than most people suppose. It would be more correct to say they are starved and worried to death than *stung!* As a matter of fact, the poor drones, if not fed by the bees, become weak and helpless; while refused their usual food and allowed no rest—through being continually pulled about by the bees—many of them huddle together in some out-of-the-way part of the hive and die there, others are dragged out half-dead by the bees and dropped on the ground to die. Very few, indeed, however, are actually stung to death. Referring to our correspondent's question, whether a bee "is ever able to reproduce" either its sting or poison-bag after having been deprived of the same, we entertain no doubt of the impossibility of such reproduction by the bee. Nor can there, to our mind, be any uncertainty as to the subsequent death of the insect, being a

direct consequence of the mutilation suffered. and our correspondent may, we think, safely accept *propter hoc* as the correct phrase.—EDS.]

BEE-STINGS AND REMEDIES.

[2560.] I have read with interest the various communications which have lately appeared in the B.B.J. on the above subjects, the net result of which appears to be that, while individual bee-keepers have each their own specific for alleviating the pain caused by stings, there is no infallible remedy yet discovered which will meet all cases.

There is, however, a point in regard to bee-stings on which some of our scientific bee-friends may be able to throw some light, more particularly as it is a matter which I do not remember to have seen noticed by any writer on bees which I have come across, and, in order to bring out the better what I mean, to state my own case. For some time after starting bee-keeping, fifteen or sixteen years ago, every sting got in working amongst my hives was to me a source not only of pain but a good deal of discomfort, from the surrounding parts becoming swollen and inflamed, and, when the eye or nose was the object of attack, the alteration made on these organs was the opposite of improving to the countenance ; by and by, however, and after two or three severe attacks by angry bees, when the stings received would run from a dozen to a score, I seem to have got inoculated, and all but proof against the poison, so much so that in the course of ten or fifteen minutes after a sting the acute pain is gone, and there is no swelling. But while this the general rule with me, now and then an exception occurs, and this is the point I wish information or opinion upon. In these exceptional cases the pain and swelling caused by a sting are as bad as ever they were; the other day, in removing a crate of sections, I got three stings, two on the back of the hand, and one on the forearm. Within a minute or two after swelling set in, and it took thirty-six hours to restore the hand and arm to a normal condition, and how this should be the case at one time and not at another is what puzzles me.

Possibly you, Mr. Editor, or some of your readers, may be able to throw some light on the subject. Is it due to some particular condition of bodily health? Or from the bees being in an angry mood? Or from the sting penetrating some part more susceptible to the poison? Or, is it one of those things, of which there are many in all departments of science, which, with our present knowledge, cannot be explained?—J. ANDERSON, *Selkirk, N.B., July* 14.

EXPERT HELP WANTED.

[2561.] With reference to "Expert Help Wanted," mentioned in your reply to W. C. H. on page 279 of last week's JOURNAL.

I am not an expert, but have had many years' experience with bees, and would therefore render your correspondent any help I could, provided he is within easy distance.—E. WIDE, *Hemyock, Collumpton, Devon.*

P.S.—It is to our discredit that you should be able to say "nor is there any bee association for that county."

Queries and Replies.

[1509.] *Brood Killed in Nucleus in Transit.*—Three weeks since I had a three-frame nucleus sent me from the country (about fifty miles away), and when transferring them to the hive I noticed that the frames were well filled with sealed brood. I also gave them four frames of foundation, which the bees have worked out and are rapidly filling with brood, one frame being already sealed over. But no progress seems to have been made with the three frames of sealed brood in the hive when first received, and none of it appears to have hatched out. If the foregoing statement is plain to you, please let me know, through the B.B.J., whether the shaking of the train would be likely to cause the death of the larvæ, and also what I had better do with the combs containing them, supposing the brood to be dead. I find some of the cells along the top of the combs, and previously unoccupied, now contain fresh unsealed larvæ. I examined the combs at the end of each week to see if any change had occurred, but saw no alteration whatever. It was a very warm day when I received the nucleus which makes me think that the brood was injured and not "chilled," even though no injury to the combs was apparent.—CHARLTONIAN, *July* 11.

REPLY.—If the hive was not sufficiently ventilated, and the day (as stated) very warm, we should attribute the mischief rather to overheating than to jarring of the train on the journey. Anyway, it is quite certain that all the brood still sealed over after three weeks' interval is now dead. We should examine its condition after uncapping a portion, and if soft and flabby through decomposition, would burn the combs containing it ; but if firm, and capable of being drawn out by means of a pin-head, the bees might be allowed to clear out the dead brood after uncapping.

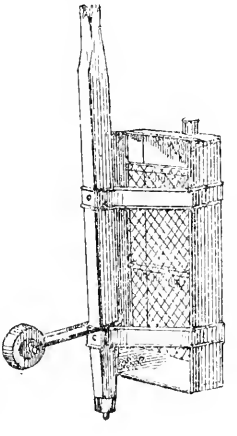
[1510.] *Extracting Thick Honey.*—I have utterly failed to get the honey out of a frame by means of the "Little Wonder" extractor. I cut the cappings off carefully, and followed closely the instructions given in "Guide Book," but have been quite unable to make any of the honey flow out of the cells. I should feel thankful for any explanation and advice under the circumstances in your next issue.—M. J., *Lampeter, July* 10.

REPLY.—The extractor referred to is not so effective in the extraction of thick honey as

those of cylindrical form, but a little practice enables one to get the honey out by its means, though the labour is greater. A correspondent, however, some time ago made what he deemed a successful attempt to "improve away" the fault he found with the machine, as shown in the sketch, regarding which he says:—"Having often felt when using the 'Little Wonder' extractor that there was an enormous waste of muscular power compared to that expended in using a cylinder extractor, I was led to devise an arrangement for lessening the labour, which I have much pleasure in submitting *pro bono publico*.

"If your readers will put a heavy comb in one side only of the cylinder extractor, and try to rotate it, they will find the whole arrangement kicks violently. There is no other word for it. But immediately on placing a fairly equal comb in the opposite cage the kicking subsides, and the extracting of the two combs proceeds more easily than one did previously. So with the 'Little Wonder,' the weight is all on one side, and the muscular efforts used to restrain the tendency to kick are considerably greater than that actually expended in extracting.

"Theory says balance your cage, and the more nearly you can do this (after allowing a small margin for setting up the rotary motion), the easier it will work. So early last summer the almost discarded 'Little Wonder' was brought out from its retirement, and a balance-weight, as shown, was affixed by the local gas-fitter. It consists of an arm attached with screws to the wooden rod, and having fastened securely at the end a leaden weight heavy enough to nearly balance the tinwork and cage, care being taken that the addition did not project farther from the wood than the outside of the opposite cage, to prevent the slightest chance of catching against the user's legs. Mine cost me a couple of shillings, but I feel sure that if made in quantity, and by using a cast-iron balance-weight, it could be supplied at about half that price ready for fixing.



"It only remains to say that the practical working of the improved 'Little Wonder' was very successful both in ease of working and increased speed, and I hope many of your readers will try it and report to the JOURNAL."

[1511.] *My first attempt with Bees.*—I started bee-keeping this year with the intention of endeavouring to obtain section honey, but up to the present have not succeeded in getting any at all. By giving you the history of my operations I am hopeful that you will show me where I have failed, and give me some hints for future guidance. I am right in the midst of a market-garden district, and surrounded with fruit trees, with fields of clover (now cut) near. I purchased a large swarm on May 12, and hived them on ten frames, each fitted with 3 in. of comb-foundation. I fed them for ten days with properly-made syrup; but they only took about a half-gill per night. On twenty-fifth day, the combs appearing finished, I then placed on a rack of twenty-one sections, covering warmly up. Occasional examinations were made to ascertain if work had commenced above, with negative results. On June 23, the clover being cut, I opened the hive to see what was going on below. Having removed section rack, I could see that there was sealed brood in the combs, with sealed and unsealed store outside. I tried to lift out the rearmost frame (frames run parallel to opening), but was afraid to do so, as the hive has no dummy to give lateral space, so I was likely to crush the bees, or rub them off the combs in the attempt. The comb I lifted weighed not under 7 lb., while the bees seemed to fully occupy both sides of all the ten frames. The queen must be in her third year from my knowledge of her. I am inclined to think that luck was against me, in that the fruit blossom, being early, was over before the bees were ready to store surplus, and then came parching weather followed by too much wet. What ought my future procedure to be? 1. Shall I leave the rack of sections on, or remove it? 2. In the later event ought I to remove outside combs of sealed honey and give foundation in its place, to be worked out for use in the future? 3. Also, when ought I to take steps to re-queen the hive?—M. W. SULIVAN, *Slough*.

REPLY.—1. The rack should be removed at once, as season is over in your district. 2. We should leave the bees all the stores they have gathered for their own use. 3. Unless queen shows signs of failing, do not re-queen at all this year. There are no errors in management to correct. It is not at all unusual for a swarm to fail to store surplus in its first year, though had the season been a good one no doubt the bees would have filled the sections.

[1512.] *Bees Gathering only Honey Dew.*—I find that my bees have stored cwts. of honey-dew, possibly mixed with lime honey. All that has been gathered by sixteen stocks since end of May is quite black in colour. They are still storing the same kind of stuff! If I clear off the surplus chambers, I fear they will clog the brood nest with it. Can I use it for bee-food, or must I bury it?—R. AULD, *Monkton Combe, July* 11.

REPLY.—So far from fearing that bees will clog their brood-nests with the black honey referred to, we should advise removal of

surplus-chambers at once, to enable them to lay in stores for winter of whatever food is available outside. There is no need to go the length of "burying" black honey—because of its being unfit for human food—and feeding bees up for winter on sugar syrup. In fact, any experienced bee-keeper, with sixteen stocks in such condition as stated would let them take their chance on the stores of their own gathering, even though so largely consisting of honey-dew, rather than incur the cost of feeding.

[1513.] *Dividing Stocks for Increase.*—I have several strong stocks of black bees, which have not swarmed, and I intend dividing each of these into two colonies at the end of this month. Of course, when so divided, half of them will be queenless. I, therefore, ask :—1. If divided on a Tuesday morning could I safely introduce a virgin queen the Thursday evening following? 2. Would it be necessary to cage the virgin queen? (Of course, I should destroy all queen-cells in hives previous to introducing virgin queens). 3. Would the hives be strong enough for wintering? — FRANK DODWORTH, *Edale, July* 9.

REPLY.—1. Yes. But to introduce virgin queens at the "end of the month" entails a risk of their mating. A laying queen would be better. 2. Whether the queen be mated or not she should be caged for at least thirty-six to forty-eight hours. There is no occasion to cut out queen-cells in their early stage. 3. This depends upon how soon they have a laying queen and consequent brood. See above remark.

Bee Shows to Come.

July 20.—*Change of Date.*—Home Park, Windsor. Windsor District Berks B.K.A. show of bees, honey, and appliances, in conjunction with the Prince Consort's Association.

July 22-23.—At Longton. Staffs B.K.A. in connection with the annual exhibition of the Staffordshire Agricultural Society. Show of bees, honey, and appliances.

July 23, North Norfolk B.K.A., Annual Show at Melton Constable Park. Entries closed.

July 24 and 25.—Bristol, Somerset and South Glos. B.K.A. shows at Knowle. Also at Henbury, July 29.—Entries close July 17 and July 22. Schedules from Miss Dawe, Hon. Sec., Long Ashton, near Bristol.

July 30.—At Alltyferin, Nantgaredig, Carmarthen, S.W. Honey show in connection with the Llanegwad Cottage Garden Society. Four classes for honey. *Open class for single 1 lb. jar of extracted honey.* Prizes, 20s., 15s., 10s., 5s., and 2s. 6d. *No entrance fee.* For particulars apply J. F. Taylor, Sec., Alltyferin, Nantgaredig, Carmarthenshire, South Wales.

August 1.—Helsby, Cheshire. Special class for one 1 lb. jar of extracted honey. Entries close July 18. Dr. Briant, secretary, Helsby by Warrington.

August 3 (Bank Holiday).—Berks B.K.A. (Newbury District), in connection with the Flower Show. Twelve classes. Liberal prizes. Special open class for comb honey. Entries close July 31. Schedules from W. Hawkes, Hon. Sec., Newtown-road, Newbury.

August 3 and 4.—At Delapre Park, Northampton, Northants B.K.A. Annual Show. Eight classes for honey and five "special prize" classes open to all. Entries close July 28. Schedules from R. Hefford, Secretary, Boughton, Northampton.

August 5.—At Nestou Park, Wilts. Exhibition of Honey, Bees, &c., in connection with the annual Flower Show. Two open classes for one section and one bottle of extracted honey. Schedules of Mr. J. P. Inkpen, Atworth, near Melksham.

August 5 and 6.—Chester Horticultural Show and Fête. Exhibition of honey, hives, and bee-appliances. To be held on the Roodee. Liberal prizes. Schedules from J. Wynne-Ffoulkes, Crypt-chambers, Chester. Entries close July 23.

August 7.—At Strathpeffer, N.B. Strathpeffer and District Horticultural and Bee-keeping Society. Ninth annual show, which includes bees, hives, and honey. Schedules of prizes from J. H. Bisset, Schoolhouse, Fodderty, Dingwall.

August 13.—At Goole, in connection with the Agricultural and Horticultural Show. Bees and Honey. Entries close August 8. J. Luddington and H. S. White, secs., Lindum House, Goole.

August 15.—South of Scotland B.K.A. Annual Show at Dumfries. "Burns Centenary" classes open to all-comers. Schedules now ready. Entries close August 8. James Kerr, Secretary, Douglas-terrace, Dumfries.

August 22, at Royton, Lancashire.—The Royton Agricultural Society, in connection with the Manchester and District Bee-keepers' Association. Entries close August 15. Schedules from A. S. Ormerod, 37, Rochdale-road, Royton, Lancs.

September 8.—At Moorgreen. Notts B.K.A., in connection with the Greasley, Selston, and Eastwood Agricultural Society. Open class for a 1 lb. bottle of honey. Schedules ready. Apply Geo. Hayes, Mona-st., Beeston, Notts. Entries close August 29.

September 9 and 10.—At Derby. In connection with the annual show of the Derbyshire Agricultural Society. Fifteenth Annual Show of the D.B.K.A. as above. Liberal prizes for bees, hives, and honey. Six of the eighteen classes are open to all comers. Schedules from F. Walker, Cattle Market, Derby.

September 16.—Wotton-under-Edge B.K.A. Annual Show of Honey. In the Church Mill. Schedules from E. W. Read, Hon. Sec., Wotton-under-Edge.

Echoes from the Hives.

Honey Cott, Weston, Leamington, July 4.—For the last fortnight the weather in this district has been about as bad as possible for bees, so cold, wet, and sunless that it has been impossible for the bees to do anything, and that, too, just in what we reckon to be the height of the season, when the white clover (of which we never have a great lot) is usually at its best. The poor drones have been cast out of the hives by the score, as though the bees thought winter was hovering over us, and sure enough it was approaching that way; some nights the thermometer was down nearly to 40 deg., but "hope," however, must be our watchword.—JOHN WALTON.

Combe Grange, Monkton Combe, July 11.—I have before me "Useful Hints" of June 18. Those who got that thorough soaking, and had fields of clover for their bees to revel in, should be very thankful; but such blessings have not come this length yet. We have not had an equivalent to one day's rain since the middle of April, nor has any pure honey been stored since the end of May. The fields are brown, and the bees have taken to the woods, and brought home "bother" for the bee-keeper. I have sixteen stocks to deprive of their stores, which consist of nothing but honey-dew. It is utterly unfit for human food, and I have yet to learn if I can make use of it for the bees, so have sent you a query for reply on the subject in the usual column. Advise me, and oblige.—R. AULD.

HONEY IMPORTS.

The total value of honey imported into the United Kingdom during the month of June, 1896, was £2,320.—*From a return furnished to the* BRITISH BEE JOURNAL *by the Statistical Office, H.M. Customs, July 7,* 1896.

BEES AT A BAZAAR.

One would have thought that the ladies had ere this resorted to all the available means of raising money by means of bazaars and the attendant "side shows," but it has been reserved for the local hon. secretaries of the L. and C.B.K.A., Messrs. Taylor and Harrison, to discover yet another means whereby money can be added to the bazaar funds and at the same time practical work be done for the industry for which they have laboured so hard, and the interests of which they have so much at heart. On Friday and Saturday last, by the kind permission of their Association, the bee tent was lent to the bazaar in connection with the Didsbury Wesleyan College, and was set up in the grounds. Here these two ardent devotees of the craft gave most instructive and enjoyable lectures three or four times each day, illustrated by practical lessons in driving of skeps and manipulation of a bar-framed hive. The unanimous verdict was that the bee tent was the most successful "outside show" from all points of view, and that the lectures and manipulations were "most interesting."

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

M. B. O. (Dover).—*Young Bees Leaving Hives.*—1. The bees found as described are young ones which leave the hive before their air-sacs are sufficiently developed to enable them to take wing. There is nothing to be done by way of remedy. 2. It is quite usual for the bees of any hive to admit a "baby-bee" from another hive without evincing hostility to the "little stranger."

W. DOLLMAN (Nottingham).—*A Novice's Queries.*—1. The appearances detailed point rather to loss of queen through some accident while examining the combs in searching for her. Novices should not overhaul combs so often as once a week. The books named contain all the information we can give you on the points raised, so that when others recommend different plans it is for you to say who shall be the guide.

FELIX BRIDGETT (Stoke-on-Trent).—Honey is mainly, we think, from trifolium incarnatum. The consistency is good, but flavour and colour only very moderate.

G. A. M.—Mr. E. H. Young, Secretary, 12, Hanover-square, London, will supply all information as to membership of the B.B.K.A., and also regarding experts' certificates, if applied to.

AN OLD SUBSCRIBER (Dulwich).—Comb is diseased, and, in view of stock being queenless, we advise burning bees, combs, and frames.

W. L. F. (West Hartlepool).—*Naphthaline.*—1. The naphthaline sent out from this office as a preventive of foul brood is a product of coal-gas tar. 2. We cannot supply you with any such information as would enable you to make it. 3. Nor can we define its exact strength; suffice it to say that the form in which it is sent out is such that a proper dose is easily measured and applied in using. A form of naphthaline may be had at any chemist's, but it was owing to the mischief occurring to bees by using this latter that induced us to undertake its sale in proper form for bee-keepers' use.

J. COVE-JONES (Warwick).—Honey sent is much too thin to be called good—in fact, it is so unripe as to make it certain that fermentation will set up if kept over the present season. Colour is good, but flavour only "medium fair."

W. G. C. (Salop).—Foul brood is rapidly developing in comb sent. We should burn

all combs and their contents, together with frames in the hive from which it came.

F. DODWORTH (Edale).—*Suspected Combs.*—If all combs in the hive are like piece sent it accounts for no brood being found in hive, as every cell is occupied with pollen, but nothing worse—no foul brood about it, as supposed.

WM. PATTISON (Castle Eden).—1. Bees are the ordinary or native kind. 2. From the appearance it is nearly certain that the bees sent have been killed while in the act of "robbing." 3. You can do nothing beyond reducing entrance, if the trouble continues.

A. M. MAYNARD (Portland Bay).—Comb received clearly shows that a fertile worker is breeding. There are also traces of foul brood, so we should use what honey the combs contain for household purposes (not for bee-food), and burn the rest.

G. G. (Honiton).—*Super Clearers.*—1. By placing the clearer *between* two supers you only free one of the bees, but by setting it below both, the whole are cleared out at one operation. An empty box set above frames of brood-chamber will accommodate the bees if there is not room for them in body-box. 2. It is rather risky to start queen-rearing so late as this, but the bees will no doubt build queen-cells, and if there are drones alive and in normal condition when the queen raised needs fertilisation, all will be well.

J. D. (Wexford).—*Variety of Heather for Honey Produeing.*—The bloom sent is of the variety usually termed "bell-heather," not that of the true "ling" or honey-producing kind (*Calluna vulgaris*). The latter is a small lighter-coloured bloom growing thickly up the stem of the plant, and presenting a tiny open blossom very accessible to the bee.

*** *Several letters and replies to queries are unavoidably held over till next week.*

Special Prepaid Advertisements.

Situations, Publications, Bee Plants, &c. — Up to Twelve words, Sixpence; for every additional Three words or under, One Penny.

DRIVEN BEES, 1s. per lb. Apply, W. MASTERS, Well College, Downley, High Wycombe. M 64

TRICYCLE (Singer's). — Offers wanted in Stocks, Swarms, or Cash. VICAR, Ince, Chester. M 68

WANTED.—Few dozen dead QUEENS. Fresh or in spirit. Cash or preparations offered. WHITE, Litcham, Swaffham. M 66

QUEENS, 2s. 6d.; Sections A1; Extracted Clover Honey, First Prize. WOOD & TAYLOR, Apiary, Hathersage, Sheffield. M 62

FINE WHITE CLOVER HONEY. Extracted 6½d. On rail. Deposit. R. DOWNER, Drayton Manor, Chichester. M 67

FEEDERS.—A few new large Bottle Feeders 1s. each, usual price 1s. 6d. SHEPHERD, Oxton, Tadcaster. M 71

BEES.—Two Frame-Hives and Bees £1 each; Two Skeps with bees 13s. 6d. each. SHEPHERD, Oxton, Tadcaster. M 72

Prepaid Advertisements *(Continued)*

HEATHER Season, 1896. STANDS TO LET. Extensive moors. Easy access by rail. Particulars, apply J. L. DENT, Burnhill, Waskerly, via Darlington. M 65

FOR SALE, TWO good STOCKS ENGLISH BEES in sound wooden hives, 12s. 6d. each. Also good Natural Swarm, 7s. 6d. JOHN GRIFFITHS, Ashton Cross, Newton-le-Willows, Lancs. M 63

PLEATED CAPS for Breffit's 1-lb. "Globe" Bottles.—Those who use these perfect honey bottles have now an opportunity of making them still more attractive by covering the corks with the above pretty caps, just made by the Patentees. By means of rubber bands they are also fastened more rapidly than tying over vegetable parchment. A set of one gross, with capping stick, post free, 2s. 6d., during the York Show, July 22, 23, 24. Address, Rev. R. M. LAMB, Bee Department, Show Yard, York. M 70

STOCKS, Nuclei, Swarms, and Queens.—Address, Rev. C. BREERETON, Pulborough, Sussex.

WANTED.—New SECTIONS, first quality, prompt cash. Also Beeswax and extracted Honey. Manager, Southdown Apiaries, Bexhill, Sussex. 197

ITALIAN (Ligurian) QUEENS. Price for July, 6s. 6d. each; English, 3s. 6d.; Hybrids, 5s. 6d. Carriage paid and safe arrival guaranteed. W. B. WEBSTER, Binfield, Berks. M 56

LACE PAPER for GLAZING SECTIONS. 100 strips, 7d., 200, 1s. 2d., 300, 1s. 6d., 500, 2s. 3d., 1,000, 4s. Post free. Best quality. Neat patterns. W. WOODLEY, Beedon, Newbury.

"HONEY AND ITS USES," 1½d.; 3s. 6d. per 100. Also "MEAD, AND HOW TO MAKE IT," and "VINEGAR FROM HONEY," each 2½d. Small sample bottle of Honey Vinegar, 7½d. Rev. GERARD W. BANCKS, The Green, Dartford. M 57

WANTED, SECTIONS, EXTRACTED HONEY, and WAX. Packages lent free to Bee-keepers and Associations. Prompt cash. State lowest price. Address Rev. W. HANDCOCK, Hampton Hill, Middlesex. M 15

RELIABLE QUEENS of 1896, Natives and Hybrids (Ligurian and English). Prolific laying Queens, 5s. 6d.; Virgin Queens, 3s. Sent post free in my introducing cage. Safe arrival guaranteed. Orders filled in rotation. HENRY W. BRICE, The Apiary, Thornton Heath.

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Editorial, Notices, &c.

HELPING THE SHOWS.

Our space is so fully occupied this week as to leave us barely room in this column to say a word on behalf of the "Shows to Come." So many applications are made by zealous and hard-working secretaries—mainly, and very excusably, anxious for the success of their own show—for "an editorial line to help on the cause," &c., that it is with quite sincere regret we find ourselves unable to single out any for special mention, so far as using our supposed persuasive powers on their behalf.

We do, however, ask for the interest and support of all readers on behalf of the many shows noted in the column referred to, and that they will enter their exhibits for the liberal prizes offered not only for "winning" reasons, but as helping to contribute to the general success.

BIGGAR B.K.A.

The annual general meeting of this association was held here on Wednesday, July 15, Baillie Rae, president, chairman.

There was a good attendance of members. The treasurer's report having been submitted and approved, the election of office-bearers for the current year was proceeded with.

It was then resolved to hold an exhibition of honey, &c., in connection with the forthcoming show of the Horticultural Society, and a committee was appointed to carry out arrangements for same. A draft prize list was then drawn up and submitted to the committee to adjust. This being all the business, a vote of thanks to the chairman closed the proceedings. Schedules will be issued shortly, and can be obtained from Wm. Ormiston, Secretary, *Biggar, N.B.*

ABOUT OUR BEES.

BY HENRY W. BRICE.

XV.

QUEEN REARING.

No bee-keeper worthy of the name is content until he has tried his hand at raising queens, and it is well for our craft that this is so. The key-stone to success in apiculture is centered mainly in the queen. No colony will thrive unless its head is competent to fulfil her duties, and no profit will accrue to the bee-keeper who permits this most important item to remain neglected. I do not think it necessary to reiterate my recent articles on this subject, but would refer readers to Bee Journals of September and October, 1894, where they will find some practical methods discussed on scientific lines to this end. After nearly two years' further experiments in this same direction I have no reason to alter in any material particular the views I then expressed, save adding that by the means therein laid down fewer queens are produced than by the rule of thumb methods adopted by the majority of bee-keepers. I can, however, confidently assert that one queen raised by adhering to the method detailed by myself is—in nine cases out of ten—worth half a dozen raised by the let-them-alone system. That scientific queen-rearing is not more fully adopted one can quite understand; it requires a great amount of care and more time—apart from natural aptitude for this class of work—than most bee-keepers have to give to it. Another thing that precludes many from continuing to rear queens on the lines indicated is the disappointment caused by extreme uncertainty of results so far as the number of cells that will be raised in each "batch," by which term I mean the number of cell cups affixed to each "stick" or bar.

If the work is properly carried out queens of good *quality* are sure to follow, but the number is a very uncertain quantity, and this is a frequent cause of the disappointment mentioned above. Everything may appear favourable, so far as the bees having accepted the embryo cells; the young larvæ selected may be of just the right age, and have transferred well with no visible drawbacks, and yet the first examination—after the proper time has come for inspection—reveals the fact that all have been refused, or it may be one is chosen and the rest declined. Why this is so no one can tell, for it may be that at the very next trial (conducted in precisely the same way) six or even seven out of nine cells are accepted and queens raised in them. This very uncertainty will, no doubt, be the cause of many not taking kindly to the methods I recommend, especially in view of the ease with which queenless bees will raise all sorts of "mothers" by the simple process of deposing the old queen at the proper time. The question then arises: Are we wise to permit new queens to become the heads of our colonies without that sort of supervision which ensures the best that can be had under the circumstances? I think not. The least we can do is to take care that only very young larvæ are contained in our queen cells, and that all cells about which there is the least uncertainty on this point should at once be ripped open and the unsuitable larva removed. Cases will arise at times necessitating the raising of a young queen or two from accidental loss or injury from various causes; in all of which cases bees will, if permitted, raise cells from larvæ of all ages and conditions. Bearing in mind then that the older the larva from which a queen is thus raised the sooner will she hatch out, the bee-keeper must himself take the initiative, and, so to speak, personally supervise the rearing of the queens at the critical time, otherwise his hives will be headed by inferior queens to a certainty. It is only within the last few years that the importance of this very particular phase of bee-keeping has begun to be properly

understood, but I don't think the time is far distant when the raising of good queens will, as a rule, be personally conducted affairs.

Assuming then that our cells have been well chosen, and queens have hatched from them, a further time of anxiety follows, viz., the "mating." All stocks, therefore, containing virgin queens should be occasionally examined, to find out whether the queen is laying. But under no circumstances disturb the hive in which a queen is known to have hatched out for at least seven days after date of hatching. That period of time at least being required to elapse before egg-laying will commence. Nor must the outward appearance or location of the hive be altered during the time a queen is making her wedding flights. Queens must, of course, never be raised without first making sure that drones are flying in the immediate neighbourhood. The proper time for the work of queen-raising is the natural swarming season, all conditions then being most favourable, and risk of failure consequently reduced to a minimum. But when honey-yielding flowers have for the most part gone, and drones been killed off, good queens cannot be had in the ordinary way, and nothing but disappointment follows the attempt to raise them so. Should a stock, however, be rendered queenless from any reason, steps must at once be taken to repair the damage by giving the bees either a queen, a queen-cell, or young brood, according to the season at which the loss is discovered. On the other hand, never permit a stock to run down and dwindle away while trying useless experiments in the hope of re-queening them when adverse conditions prevail. Better by far to gradually draw the queenless lot toward the next queened stock, and "unite." After the loss of a queen weeks must necessarily elapse before brood will be hatching in such a hive, and even strong stocks will, during the summer, be greatly reduced before any new bees appear, to take the place of those rapidly disappearing from natural causes. Where many queens are wanted to replace old ones the best plan is to set aside sufficient stocks solely for the purpose of queen-rearing early in the season, in order to ensure a supply when they are wanted. In queen rearing do not—if prevention is possible—permit the male and female element to be any way related. Where "in and in" breeding goes on, deterioration in working qualities of the progeny is bound to follow. The colony from which our future queens are to be produced should be headed by a queen brought from a distance, and no drones are allowed to hatch in this stock. Unless a special cross is desired, it matters little where the drones are produced for mating purposes; anxiety on this point alone is therefore avoided. In concluding this chapter I would say, should honey cease to come in when raising queens, or the weather turn bad, feed liberally, or best results will be wanting.—*Thornton Heath.*

(To be continued.)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

FOUL BROOD AND OPEN-AIR FEEDING.

[2562.] I was much interested with "South Devon Enthusiast's" notes on the above [2553, p. 273], especially with the open-air feeding. Last autumn I prepared for winter twenty-three driven stocks, obtained very late, as skep bee-keepers have an idea that bees are gathering honey quite up to September. Fortunately, I had some drawn-out combs ready to put the bees on, and as all the queens were young or in their second year, I was anxious to preserve them. I obtained some American packing-cases, putting in two pieces of board for the frames to rest on, and making an entrance each side. These, with a "Wells dummy" in the middle and four frames on each side, made, to my mind, capital makeshift hives for the purpose. They were very small lots—in one or two cases not more than two quarts of bees, and the difficult part was the feeding up safely, for bringing small lots of bees into the midst of many strong stocks at a time when the latter were prowling about with nothing to do was very risky. I located them around the garden (which is four acres in extent), and closed entrances to a one or two bee space, but had a lot of trouble to keep the strong stocks from overpowering weak ones, and under no circumstances could I feed them except the last thing at night. However, by doing this, and continually smearing the hives with carbolic acid, they took down enough food—with the help of a cake of candy—to last them through the winter. I was fortunate in having a mild winter for my experiment, being convinced if it had been otherwise the results would have been different. Anyway, when the "roll call" took place in March, every stock of the twenty-three responded, though many were short of food.

Then the question of feeding confronted me. Having but little time on my hands, and often away from home all day, the chances were great of robbing being started in my absence. To go round thirty hives two or three times a week is no joke, so I determined to try open-air feeding. I have done so before, but not to any great extent, because of having neighbours around me, some keeping about twenty stocks, and all of them residing within half a mile. In the middle of my garden there is a pond

with banks sloping on all four sides, and by putting the feeder on the side on which the sun was shining and below the bank, free from cold winds, I found it to answer splendidly. Now as to time of day to feed. Do not be down on me, Mr. Editor, for feeding about three in the afternoon, or when my neighbours' bees had nearly quieted down for the day. I kept my syrup in the greenhouse heated to about 80 degrees, and drawing off nearly a quart or so of the thin medicated syrup, I placed it in a rapid feeder near the pond. This was done every afternoon when fine and not too cold. I was amused to see how quickly the bees found the food. In about ten minutes there was a single "hum," which every minute increased, until as I watched them while sitting on the side of the bank the bees seemed to be coming from all quarters of the compass. If I happened to have friends visiting me at feeding time, I used occasionally to have a little harmless fun at their expense. I began with: "Would you like to see the bees fed? If so, come along." Then as—feeder and jug of syrup in hand—we neared the pond, I would observe, "Watch me call them," then I whistled, and in about a minute down the bees came in troops, much to the astonishment and wonder of the onlookers, until the "trick" was explained. Usually in about half-an-hour the syrup would be gone, and soon afterwards the bees gone home too.

This way of feeding answered so well that I shall certainly try it again. Nevertheless, I quite agree with the editorial foot-note on p. 274. So many things must be taken into consideration that cannot be explained in writing, and for beginners feeding inside hives is best.

I found it very convenient and easy with "Wells" hives, when I sold or wanted a queen for myself, to catch one of the two, then pull out the "Wells" dummy and allow the other queen to have the run of both compartments. Some I sold in this way, others I put in hives, which are now strong stocks and doing well.—J. MARTIN, Expert, Bristol B.K.A.

BEES NOT WORKING IN SECTIONS.

[2563.] Having had the same difficulty as J. D. F. (query 1501, p. 275, of B.J. for July 9), I will, with your permission, tell him and others interested how I got my bees to work in sections. On June 2 I examined brood-chamber of a hive and found the ten frames of comb well filled with honey and brood in all stages. It was also crowded with bees and in good condition for supering, but still they would not work in sections. I therefore asked our editors why the bees did not start work under the circumstances, and got a reply, on page 238, to say it may be the sections are not packed sufficiently warm, &c., so I put on three more quilts. Still no bees in sections. I then thought it might be they don't care to come through queen-excluder zinc. I therefore removed it, and to keep in the warmth then pushed down pieces of canvas between the ends of top bars projecting beyond the section-rack, and packed up very warmly by tucking quilts well down on all sides of the rack. I also put board on top to keep quilts close down. Two days afterwards on examining I found every section crowded with bees working on the foundation, and to-day the full rack of twenty-one sections are ready for removal. They are also as clear of brood as my other hives with queen-excluder zinc. As the honey flow will be over in a few days I shall give no more sections this year. The last flowers of lime trees are falling off, and that means the honey-flow of '96 is drawing to a close.—C. E. G., *Guernsey, July* 14.

GALVANISED PARTS TO EXTRACTORS.

[2564.] Would you kindly correct a little matter that appeared in the report of "Royal" Show, July 2, page 262? Several customers—including one dealer—have written me *re* the "galvanised" parts of my extractors. Allow me to say I have *never* sent out at *any time* an extractor with any part *galvanised.* The cylinders and cages are made of tinned steel, while the taps and other fittings are also well coated with pure tin.—W. P. MEADOWS, *Syston, July* 17.

[If a wrong impresssion has got abroad through the report referred we are very glad to correct it; though we cannot quite understand how any mistake could arise. The extractor alluded to as a "good machine, the merits of which were lowered by the use of galvanised iron fittings," was not Mr. Meadows' make at all (and was not stated so in report) but that of another maker.—EDS.]

HEATHER SEASON, 1896.

PREPARING BEES FOR THE MOORS.

[2565.] So far there is every prospect of a good heather season in the county of Durham, the heather having attained a fair average growth, and, being a little earlier in bloom than last year, it promises an advantage to bee-keepers, as there is a better chance of fine weather during the time it is in bloom, and we may not have the cold nights to contend with which are so often prevalent during the latter part of August and September. Bee-keepers would do well to remember that in preparing their hives for the moors, it is advisable to contract the brood-nest to about eight frames; by so doing they will be more likely to secure the surplus of heather honey stored in the surplus-chambers.

During the latter part of the season it is certain that bees have a tendency to store the greater part of the honey gathered in the brood-chamber, and, if a colony has more frames than

is necessary for the accommodation of the queen and the storing of sufficient food for winter, they ought to be removed; because when heather honey is stored in brood-combs it cannot be extracted, nor is it in a saleable form. Many bee-keepers make this same mistake of having too many frames in brood-chamber, and, in consequence, they find at the end of the season that their bees have done little or nothing in the supers. They are naturally disappointed at the result and apt to blame the bees, the weather, or the district, whereas, in many cases, the fault lies at their own door. Trusting you will be able to find space to insert the above, as I am sure, if acted up to, it will be found to work well in practice, and wishing all bee-keepers at the moors a very successful season.—JOSEPH L. DENT, *Burnhill.*

THE SEASON IN SWITZERLAND.

[2566.] Never since I have been a bee-keeper have I passed through such a bad season as the present one. My two hives on scales, one very strong and the other moderately so, have collected a total of eighteen kilos and fourteen kilos respectively, just enough for their winter provision. In many apiaries the results are similar. The wind from the north predominated up to May 27; after that we had constant rain, and then the crops yielding bee-forage were mown.—ED. BERTRAND, *Nyon, July* 5.

SOME JULY DAYS.

[2567.] Here, near the centre of England, it has been one of the most delightful seasons I ever remember. Not specially good from a bee-keeper's point of view, because the bees have done next to nothing off the clover; but for everyone else—farmers, gardeners, holiday-makers—it has been very good.

Heavy rains the first week in June, and at intervals since, increased the hay crop. The wheat looks splendid, and our gardens are almost tropical, the great globe thistle (Chapman honey-plant) being 10 to 12 ft. high, and mulleins more than 6 ft., so that, however great the want of rain in the southern counties, the drouth has not been serious here.

The terminal blossoms of the lime, or linden, came out on June 23, a very early date for this district; but, even so early, I noticed several trees fully out on that day, whilst other trees, even in the same avenues, did not open their buds for quite a week longer. The tree is no doubt raised from foreign seed, so that would account for the variation in the time of flowering. It is a noble tree. When it has reached maturity, and is full of blossom, it is a splendid sight to stand beneath and gaze upwards, and listen to the roar of the bees—hive bees and humble bees, solitary bees, wasps and flies, indeed everything that is blessed with wings—and the noise of these myriad vanes, dispersing the odorous air, approaches the sound made by a powerful swarm earlier in the year, than which there is nothing more inspiring.

Years ago, when we had a succession of late summers, and the trees did not flower till the middle or end of July and well on into August, I have known the bees never touch the blossom for year after year. This was caused by the peculiar weather conditions generally experienced here at that time, *i.e.*, cold north or east winds, or hot days but cold nights. The singular fact is that humble bees work them at such times but hive bees do not; but then our hive bees are so very particular! Of late years, except for the limes, I should have but a poor tale of bricks to tell. Year after year they have flowered early, and the bees have revelled in them. No other flower in Britain, it seems to me, gives honey so freely to the bee. When July came in my fifteen hives shook off their lethargy, and became the energetic bees described by Dr. Watts. Their owner, too, profiting by their example, busied himself in the making of sadly needed lifts (why do hive makers make hives without lifts?), frames, section-racks—all those jobs that we (at least, I mean I) save up, as it were, for the long winter evenings—hammering sections together, glueing the mitred corner, cutting the foundation to fit (why can't makers cut it to the right size? Surely the 4¼ in. by 4¼ in. sections are now the only ones used), fitting the foundation, adjusting them in the cases, dividers between, bless me! No slave ever worked half so hard, or bicyclist trying to break a record ever had less time to eat and sleep. Happy Mr. Woodley, with a wife willing to do the work whilst he directs. Poor "Lordswood," labouring lonely in the long summer evenings while his sisters enjoy themselves propelling machines on the hot and dusty highway. My fifteen hives are arranged on two sides of an apology for a lawn. I say "apology for," because we have yet to find a man with sufficient nerve to use the mower, so that the dandelions and daisies and clover grow without suffering from periodical decapitation. One row of hives face the south, the other row the north. The bees flying from the hives meet in the centre, so that there is an archway paved by grass and roofed in by bees. Along this corridor in the long, drowsy summer evenings I wander to and fro till a brown path has been made in the grass—grass which hides spring crocuses, narcissi, and meadow-saffron bulbs. It is delicious to drink in the honey-laden air which rises from the burring mouth of every hive—many mouths whose lips are thick and hot with bees—black bees working so magnificently to cool their blazing thoroughfares, that by comparison a Corporation man, with horse and cart, watering our streets does but merely loll. A broad volume of sound issues from each mouthpiece as from an organ-pipe, yet sweeter to me than any organ, harp, or

sound of human voice, because it speaks of the profound grandeur and beauty of the earth, even that tiny bit of it which is called England. The blazing sun goes down westwards, a great fiery ball colouring the sky all the gradations of crimson and gold, the colour of poppies in the corn and of evening primroses, often called sun drops, which now open in the garden. In this glow the green leaves and branches of linden, ash, and oak turn amber. Later, the magpie moth sows trouble for the gardener; the burly yellow underwing beats against the window in his frantic efforts to escape, the swallow-tailed moth flies about the hawthorn, and, hark! there is the whir-r-r of the fern owl.

These July days were not always bright and sunny. No, there were dull days, when the sun never penetrated the thick wall of vapour; days when for hours there was a Scotch mist —*i.e.*, a dewy rain; days when there seemed no air—hot and stifling; and these were the days when the honey almost dropped from the linden flowers, when the bees were worth coming miles to see, when the white honey-combs became thick and heavy in their frames. Honey everywhere—stolen in, in empty cells amongst the brood, over pollen, in burr-combs beneath supers, old, cracked cells repaired—anything to hold the honey.

The morning of the seventh of July it was the height of the bee-keeper's season. The sun shone gloriously, and the bees worked almost with frenzy, for the limes were loaded with honey. During the morning the sky became a trifle overcast, but the haze was so light and high that no one apprehended rain, not even the haymakers worked one whit harder. Yet about an hour before noon every bee, wherever it happened to be, gave up work and hurried home. No sudden inrush of bees to the apiary have I ever before seen like unto that. The entrances were choked with bees struggling to enter, and still no spot of rain, nor even then did I think there would be any rain. I thought they were deceived for once. Yet in fifteen minutes, when the bees were all in, there came on in one second such a downpour that one may never see again in a lifetime. Every insect that did not seek shelter must have been inevitably drowned or battered to death by that cannonade of water. An hour after the bees worked, if anything, harder than before—the water had not spoiled the pendent blossoms of the lime—but the haymakers, somewhat resembling drowned rats (there was no shelter in the field) had gone home—no more haymaking that day.—LORDSWOOD.

Queries and Replies.

[1514.] *Bee-houses.—A Continuous Bee-hive.*—1. Can you kindly tell me where I can get a plan of a bee-shed? I want to build one, but do not know exactly what fittings are required, or how to arrange the hives, whether in two rows or only one, &c. 2. Would there be any objection to having a box from one end to the other of the shed, and keep the different stocks apart with sheets of zinc, perforated with small holes, something like the "Wells" dummy; then, when supering, putting on another box with shallow frames, and allow all bees to mix in them as they like? I have never heard of this being done, except on a small scale in "Wells hives," and should not care to try it if likely to fail; but it seems a pity to put separate hives in the shed when not required for warmth. Of course, something more would have to be done to keep them warm in winter.—W. HOULDER, *Methwold, Norfolk, July* 17.

REPLY.—In view of the fact that the subject of bee-houses was very fully discussed in our pages during the closing months of last year, we need do no more than refer our correspondent to B.J. for November and December, 1895. The letter of "Norfolk Dumpling" (2,289, p. 471, of our issue for November 21 last) is not only specially applicable to his case, but comes from his own immediate district of Methwold.

[1515.] *Boxes for Carrying Driven Bees.*—Will you kindly tell me in next issue what you consider the best form of box in which to carry home driven bees? I expect to drive a good many lots during my coming holiday, and want to start my preparations.—W. H. S., *Sparkbrook, July* 17.

REPLY.—A "Hudson's Soap" box (costing a penny) makes as good a receptacle for carrying home driven bees as can be imagined. Cut a hole, say 5 by 3, in each side of box, and a smaller one in lid. Cover these holes—on the inside—with perforated zinc, or with wire-cloth. Next nail a couple of rough unplaned strips of wood across bottom of box inside, and similar strips on lid *outside*. The first-named of these strips gives foothold to the bees when clustered in box, and the second helps to secure ventilation when boxes are tied three or four together in carrying. In using, the lid is first removed from box: the latter —set on a cloth spread out on the ground and propped up in front—is ready to receive the bees, which, after being driven, are thrown out in front, and allowed to run in. As the bees of each driven lot become settled down in box, the latter is lifted gently, bottom upward, on to its lid, and secured as explained above.

[1516.] *Suspected Loss of Queen.*—At the beginning of June I drove the bees out of a skep into a new frame-hive, and now fear the queen was lost, because the day after "driving" the bees left the frame-hive and clustered on a tree close by, and after about half an hour returned to the old skep. I looked for the queen, but could not find her;

and, as I had in the meantime emptied the skep of the honey and combs, I again drove the bees into the new hive. But am not even now sure whether the queen is there or not. What would you advise me to do?—E. W. PRYOR, *Droitwich, July* 14.

REPLY.—The proper thing to do is—examine combs for eggs or brood, and if these are found in normal condition all will be right. Otherwise a queen must be provided, or the bees will perish.

[1517.] *Diameter of Cylinder for Extractor.*—I notice in "Guide Book" that the cylinder of the extractor referred to is 18 in. diameter; would not it work as well if the cages were in a square of 9 in. (to take a standard frame)? This would require a cylinder of only 16 in. diameter, which reduces the size very greatly; the speed to be regulated by gearing at top.—S. SCARLETT, *Stafford, July* 17.

REPLY.—No, the extractor will not work so well if diameter of cylinder is less than 18 in., for the reasons given on page 77 of "Guide Book" (fourteenth edition). The farther you can get the face of the comb from the central spindle the more easily and efficiently is the honey extracted. If a drawing is made of the cages with a section of comb in position you will find the cells, with the exception of the central ones, at different angles to the radius of cylinder. When the angle becomes too great the honey on the outer edges of the comb, following line of rotation, is not extracted at all, and so much extra speed is required to extract even the other edge that the comb may be damaged. The nearer the walls of the cells are to being in a line with the radius, the more easily is the honey extracted.

[1518.] *Making Artificial Swarms in July.*—I started this season with a frame-hive of bees. They were very strong in April. About the end of the month I put on super of twenty-one sections. Three weeks later I raised the first and put another similar one under. On June 21 I removed top one well filled; by July 6 the other, also well filled, was taken off, and as I am anxious to get a swarm (only having one stock) I gave no further surplus room. Before I took off the full sections the bees clustered outside on warm nights, but went to work in the day. Now, however, since the last lot of sections were removed they remain clustered day and night, covering the front of the hive and part of each side. When the sun is bright a great many of them disperse, but not near all. I have been keeping a close watch the last few hot days expecting them to swarm, but as they have not I opened the hive this afternoon and am not able to find any queen-cells. I saw the queen and plenty of brood. They also seem to have plenty of cell-room. 1. What I cannot understand is why the bees should be idling about, and if the hive is too full why they don't swarm. Can you explain it? 2. I am thinking of making an artificial swarm as per instructions in "Guide Book," and depend on the stock hive rising another queen. Should I be acting right? I am very anxious to increase my stock. I may also add the hive is in a bee-house. I am a beginner, so possibly may not have succeeded in finding queen-cells when searching for them. I have had this lot of bees two years; they threw a swarm last year but I lost it. There is plenty of forage here at present, and being a heather district it will last for some time. There are also plenty of drones in the hive. Any information you could give me I shall be greatly obliged.—C. F. N., *Dolgelly, N. Wales, July* 13.

REPLY.—1. The reason of bees not swarming is very plain. Having—by giving timely surplus-room—succeeded in overcoming the swarming impulse during the time when bees are most inclined to emigrate—*i.e.*, during May and June, they have now decided to stay at home, and consequently no queen-cells were raised. The "idling" complained of is probably due to the honey-flow having stopped for the time being. 2. No time should be lost in making the artificial swarm if it is to be done this season.

[1519.] *Renewing Combs. Straining Honey.*—1. I have had the same bees in frame-hive since 1891. How much longer may they remain in it without combs being renewed? 2. Is honey extracted by means of the "honey-squeezer" perfectly good and saleable without being strained? Mine is so thick this year there is great waste in running it through cloth.—"STOW HILL," *Bury St. Edmunds.*

REPLY.—1. No given time can be stated as to renewal of combs. Some are perfectly good after eight or ten years' use, while others need renewal, for many reasons, after three or four years' service. It is a good plan to renew combs by degrees, replacing two each year by removing and substituting full sheets of foundation. They are thus kept in good condition and all faulty ones done away with. 2. Honey for sale needs straining to free it from particles of wax, &c. If open muslin is used, and the material damped slightly before running in the honey it soon passes through.

[1520.] *Removing Surplus Honey.*—Having heard that you kindly give information respecting bee-keeping, I should be glad of your advice in a matter regarding one of my hives. In May a large swarm unexpectedly issued, and, not having a hive ready, the bees were hived in a box, and there they have since remained. They commenced working at once, and on trying afterwards we failed to smoke the bees up into a frame-hive placed above. The consequence is that the box is now full of honey, and the frame-hive nearly so. The difficulty now is how to take the honey without destroying the bees. Can you tell me of some way?—JESSIE KING, *Rugby.*

REPLY.—There will be no difficulty in appropriating contents of the top hive by removing

the frames of honey at close of season. The box below will have to remain the brood-chamber for wintering the bees in, and next spring may be lifted bodily on to the frame-hive. The latter, having its frames fitted with full sheets of foundation, will—as the bees need room—be taken possession of by the queen as a brood-chamber, and when the combs in original box are emptied of brood they will be filled with honey and may be removed as surplus.

Echoes from the Hives.

Bristol, July 13.—One may this year ask Where is the honey to be found? for saving the blackberry-bloom there is nothing from which the bees can gather the coveted nectar. The old saying is verified—"when grass is mown, the honey's gone." Our expectation of a white-clover honey flow is doomed to disappointment. We have had very little rain since March, consequently the fields are burnt up and quite brown. Water is very scarce, the farmers having to haul it for their cattle in many places, and in this country I think it is all over with bee-keepers so far as more surplus honey for '96. This year it has been a "good beginning but bad ending."—J. MARTIN, *Bristol B.K.A.*

Grim's Dyke, Harrow Weald, July 20.—On Wednesday last (15th) at the Pinner Flower Show, Mr. Aylesbury, of Rinslip, showed a fine bell glass of honey, which had been gathered by a stock of bees since May last. The honey, with the board and glass, weighs 60 lb.—GEO. WALL.

Bee Shows to Come.

July 24 and 25.—Bristol, Somerset and South Glos. B.K.A. shows at Knowle. Also at Henbury, July 29.—Entries closed.

July 30.—At Alltyferin, Nantgaredig, Carmarthen, S.W. Honey show in connection with the Llanegwad Cottage Garden Society. Four classes for honey. *Open class for single 1 lb. jar of extracted honey.* Prizes, 20s., 15s., 10s., 5s., and 2s. 6d. *No entrance fee.* J. F. Taylor, Sec., Alltyferin, Nantgaredig, Carmarthenshire.

August 1.—Helsby, Cheshire. Special class for one 1 lb. jar of extracted honey.

August 3 (Bank Holiday).—Berks B.K.A. (Newbury District), in connection with the Flower Show. Twelve classes. Liberal prizes. Special open class for comb honey. Entries close July 31. Schedules from W. Hawkes, Hon. Sec., Newtown-road, Newbury.

August 3 (Bank Holiday).—At Greatham, Durham. Northumberland and Durham B.K.A. show of honey in connection with the Annual Exhibition of the Greatham and District Agricultural Society. Entries close July 29. *No entry fees.* Schedules from T. Melrose, Greatham, Stockton-on-Tees.

August 3 and 4.—At Delapre Park, Northampton, Northants B.K.A. Annual Show. Eight classes for honey and five "special prize" classes open to all. Entries close July 28. Schedules from R. Hefford, Secretary, Boughton, Northampton.

August 5.—At Neston Park, Wilts. Exhibition of Honey, Bees, &c., in connection with the annual Flower Show. Two open classes for one section and one bottle of extracted honey. Schedules of Mr. J. P. Inkpen, Atworth, near Melksham.

August 5 and 6.—Chester Horticultural Show and Fête. Exhibition of honey, hives, and bee-appliances, on the Roodee.

August 7.—At Strathpeffer, N.B. Strathpeffer and District Horticultural and Bee-keeping Society. Ninth annual show, which includes bees, hives, and honey. Schedules of prizes from J. H. Bisset, Schoolhouse, Fodderty, Dingwall.

August 13.—At Goole, in connection with the Agricultural and Horticultural Show. Bees and Honey. Entries close August 8. J. Luddington and H. S. White, secs., Lindum House, Goole.

August 15.—South of Scotland B.K.A. Annual Show at Dumfries. "Burns Centenary" classes open to all-comers. Schedules now ready. Entries close August 8. James Kerr, Secretary, Douglas-terrace, Dumfries.

August 19.—At Court Gardens, Marlow. Show of bees, honey, hives, and appliances in connection with the Marlow Horticultural Society Show. Seven classes out of ten are open to all. Liberal prizes. For schedules apply to Arthur D. Cripps, hon. sec., Marlow. Entries close August 15.

August 19 and 20.—In the Quarry, Shrewsbury. Honey Fair and Show of Honey, Hives, and Bee Appliances, of the Shropshire B.K.A., in connection with the Shropshire Horticultural Society's great Fête. Over £35 in prizes. Schedules, &c., from T. Whittingham, Upton Magna, Shrewsbury. Entries close August 5.

August 22, at Royton, Lancashire.—The Royton Agricultural Society, in connection with the Manchester and District Bee-keepers' Association. Entries close August 15. Schedules from A. S. Ormerod, 37, Rochdale-road, Royton, Lancs.

September 2 and 3.—At Birkenhead. In connection with the Wirral and Birkenhead Agricultural Society. Show of hives and honey. Two classes for twelve sections and two for twelve jars extracted honey; one of each being open to all. Open class for best frame-hive. Liberal prizes. Entries close August 19. Schedules from Arthur H. Edwardson, 28, Hamilton-street, Birkenhead. The bee-tent of the L. and C.B.K.A. will be on the ground and lectures given each day.

September 8.—At Moorgreen. Notts B.K.A., in connection with the Greasley, Selston, and Eastwood Agricultural Society. Open class for a 1 lb. bottle of honey. Schedules ready. Apply Geo. Hayes, Mona-st., Beeston, Notts. Entries close August 29.

September 9 and 10.—At Derby. In connection with the annual show of the Derbyshire Agricultural Society. Fifteenth Annual Show of the D.B.K.A. as above. Liberal prizes for bees, hives, and honey. Six of the eighteen classes are open to all comers. Schedules from F. Walker, Cattle Market, Derby.

September 16.—Wotton-under-Edge B.K.A. Annual Show of Honey. In the Church Mill. Schedules from E. W. Read, Hon. Sec., Wotton-under-Edge.

September 26.—At the Corn Exchange, Jedburgh. Annual show of Roxburghshire B.K.A. Twenty-eight classes, all open to members free of entry-fee. Entries close September 22. Thos. Clark, secretary, Pleasants Schoolhouse, Jedburgh, N.B.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

V. H. Tippet (Skegness).—*Queens Duplicating Eggs in Single Cells.*—It is not uncommon for a prolific queen to occasionally deposit two eggs in one cell. The "something wrong" you fear only arises when this abnormal egg-laying is more or less continuous. For instance, if a queen has her ovaries full to repletion with eggs, and there are so few bees in the hive as to only cover a very limited brood-nest, superfluous eggs are deposited and removed by the bees, and no harm follows. In some cases, too, an overburdened queen will drop eggs on the floor-board. On the other hand, fertile workers will—among other irregularities—deposit several eggs in single cells here and there, with no uniformity at all. Aged and worn-out queens also not seldom lay irregularly—and at times two eggs in one cell—but in both the last-named cases drones only are raised from the eggs so laid.

J. C. Griffith (Newton).—*Packing Bees for Transit.*—Stocks of bees in "round wooden hives, which have, as you say, "fast combs," must, in packing "for transit by rail," be dealt with exactly as so many straw skeps—*i.e.*, they must travel bottom upwards, and be covered with some open material to give air. In preparing such hives for travelling in warm weather, we should fit each with an "eke" (made from an American cheese-box), covered on one side with strong, open material, and made to slip over the hive so far only as to allow 3 in. or 4 in. of space between the covering and bottom of combs. This space—in which the bees could cluster if heated—would give ample ventilation.

A. Weathered (St. Albans).—*Queen-Raising.*—The series of articles on this subject which appeared in our pages during the year 1894 were so exhaustive that we cannot do better than refer our correspondent to them.

F. McConnel (Carlisle).—*Fermenting Honey.*—Fermentation in honey is the gaseous change which eventually turns it sour and produces vinegar. It is mainly caused by honey being unripe when "jarred off." It may be in part restored to useable condition by immersing the vessel containing it in water and heating to about 150°. Honey intended for keeping for any length of time should not be stored in a cellar in an open jar covered with brown paper, but covered well down, so as to render it air-tight and in a dry place. In dealing with fermented honey, boiling point (212°) is far too high.

J. H. Priestly (Halifax).—*A Beginner's Queries.*—1. We fear your "looking at sections every evening" will have helped to keep the bees from working actively in them. A rack of sections when put on should be made as warm and snug as possible, and the bees while working in it disturbed only so often as is absolutely necessary. 2. Heather a mile away is well within reach of your bees. 3. Insect sent is the common earwig. Brush them away when found harbouring in corners of roofs, &c. Beyond creating more or less dirt about hives they do no harm. 4. We can make no attempt to explain the peculiar sound in the hive without hearing it. 5. Ashes spread on the ground about hives, if kept neat, do very well.

Wm. Welsh Caird (Stonehaven).—*Swarming and Young Queens.*—1. The first young queen generally hatches in about eight days after the prime swarm has been led off by the queen or mother-bee of the colony. 2. After the lapse of from twenty-four to thirty-six hours, if weather be favourable, a second swarm issues, and the first queen hatching out after this second departure at once either sets about the destruction of all queen-cells and queens she finds in them, or heads off a third swarm, in which latter case the strongest of the young queens left behind undertakes the work of destruction, and afterwards reigns as queen of the colony.

Anxious.—The comb sent is very palpably affected with foul brood, and, in view of the surroundings detailed in your letter, we strongly advise burning at once all the contents of the affected hive. If the hive itself is a good one, we should disinfect it, but not use again till next year.

G. Benford (Compton, Sussex).—*Fertile Worker in Hive. Renewing Combs.*—1. The fact of the queen removed in first instance, being "a drone-breeder," reduced the colony to an abnormal condition, and this, no doubt, accounts for their failure to

raise a queen from brood given to them. The subsequent drone-brood in worker cells proved that a fertile worker had commenced laying. 2. You cannot do better than utilise the bees by uniting to the stock "a yard away," as proposed. 3. Spring is the best season to renew combs by removing outside old ones (not more than two at one time), and substituting full frames of foundation. Three or four new combs will be quite enough to have built out in one year.

E. KENT (Tunbridge Wells).—*A Batch of Queries on Bee-matters.*—1. Smokers, fumigators, and carbolised cloths each have their advocates as intimidants for bees. We can only tell you that of the three *our* preference is for the smoker, but we do not quarrel with those who think otherwise. 2. Stocks winter well on seven or eight fumes. 3. The amount of food in a hive can best be judged by examining combs at close of season, and before packing for winter. 4. There is no special temperature for extracting-room. 5. Comb is quite healthy. 6. Of the thirty-one specimens of bees sent, three or four seem the ordinary native bee. All the others are more or less crossed with the Carniolan or the Italian races. But the few not showing foreign markings may be from hybrid stocks, though devoid of the bands. It is absurd to suppose that all bees in a colony will be marked exactly alike. 7. As the honey harvest is now about over in Kent, all surplus chambers should be removed.

Special Prepaid Advertisements.

Situations, Publications, Bee Plants, &c. — Up to Twelve words, Sixpence; for every additional Three words or under, One Penny.

DRIVEN BEES, with Queen, at end of July; 4s. 6d. per lot. A. MORETON, Bransford, Worcester. M 76

WANTED, Honey EXTRACTOR, good, clean, and cheap, for cash. PARSONS, Shamrock House, Stokegolding, Nuneaton, Leicestershire.

TWENTIETH YEAR.—Pure Black '96 Tested Queen, 3s. 6d. delivered; with Swarm, 5s. on rail. ALSFORD, Expert, Blandford.

1896 QUEENS, 2s. 6d.; Gilt Section Bands 1s. 100; Screw-top Bottles, 16 oz., 2s. doz. WOOD & TAYLOR, Hathersage, Sheffield. M 73

FOR SALE, 300 well-finished good quality 1-lb. SECTIONS. What offers for lot, carriage paid? ERNEST E. DAVIS, Great Bookham, Surrey.

FOR SALE, 24 doz. CLOVER HONEY, Abbott's Screw-cap 1-lb. Jars; also 5 doz. Sections in cases. By taking lot, 8s. doz., carriage paid. W. ROGERS, Bell-street, Princes Risborough, Bucks. M 77

GUARANTEED Healthy 3-Frame NUCLEI, with 1896 Tested Queen, 10s. 6d. each. Fine 1896 Fertile Queens, 3s. 6d. each. Safe arrival guaranteed. C. WHITING, Valley Apiary, Hundon, Clare, Suffolk. M 78

FOR SALE, EXTRACTOR, thorough working order, cost 35s.; sell 21s. Also large Iron Fly-wheel, fitted with shaft, for amateur saw-bench or lathe; cost 25s.; sell 10s. Both delivered Lynn station. CARRITT, South Wootton, King's Lynn.

Prepaid Advertisements *(Continued)*

STOCKS, Nuclei, Swarms, and Queens.—Address, Rev. C. BRERETON, Pulborough, Sussex.

WANTED.—New SECTIONS, first quality, prompt cash. Also Beeswax and extracted Honey. Manager, Southdown Apiaries, Bexhill, Sussex. 197

HEATHER Season, 1896. STANDS TO LET. Extensive moors. Easy access by rail. Particulars, apply J. L. DENT, Burnhill, Waskerly, viâ Darlington M 65

ITALIAN (Ligurian) QUEENS. Price for July, 6s. 6d. each; English, 3s. 6d.; Hybrids, 5s. 6d. Carriage paid and safe arrival guaranteed. W. B. WEBSTER, Binfield, Berks. M 56

LACE PAPER for GLAZING SECTIONS. 100 strips, 7d., 200, 1s. 2d., 300, 1s. 6d.; 500, 2s. 3d., 1,000, 4s. Post free. Best quality. Neat patterns. W. WOODLEY, Beedon, Newbury.

"HONEY AND ITS USES," 1½d.; 3s. 6d. per 100. Also "MEAD, AND HOW TO MAKE IT," and "VINEGAR FROM HONEY," each 2½d. Small sample bottle of Honey Vinegar, 7½d. Rev. GERARD W. BANCKS, The Green, Dartford. M 57

RELIABLE QUEENS of 1896, Natives and Hybrids (Ligurian and English). Prolific laying Queens, 5s. 6d.; Virgin Queens, 3s. Sent post free in my introducing cage. Safe arrival guaranteed. Orders filled in rotation. HENRY W. BRICE, The Apiary, Thornton Heath.

PLEATED CAPS for Breffit's 1-lb. "Globe" Bottles.—Those who use these perfect honey bottles have now an opportunity of making them still more attractive by covering the corks with the above pretty caps, just made by the Patentees. By means of rubber bands they are also fastened more rapidly than tying over vegetable parchment. A set of one gross, with capping stick, post free, 2s. 6d., during the York Show, July 22, 23, 24. Address, Rev. R. M. LAMB, Bee Department, Show Yard, York. M 70

FOR SALE. LEAVING THE NEIGHBOURHOOD.

BEE-HOUSE, 3 Stocks of Bees in Frame-Hives; a number of "Cowan" Hives, Shallow-Frame Supers; large quantity of Shallow & Brood Frames, with straight Combs fully worked out, on wired foundation; 2-Frame COWAN EXTRACTOR, several hundred Frames, Feeders, Ripening Can, and many other Appliances, all of which (including Bees) are in good condition, and *guaranteed free from disease of any kind.*

Apply, "CORNWALL," *Bee Journal* Office, 17, King William-street, Strand, London, W.C.

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HONEY FAIR

AND GENERAL EXHIBITION OF

HONEY, HIVES, AND BEE APPLIANCES,

At which upwards of £35 in Prizes will be awarded.

To be held in connection with the

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In THE QUARRY, SHREWSBURY,

On Wednesday and Thursday, Aug. 19th & 20th.

Schedules of Prizes and Regulations from T. WHITTINGHAM, Upton Magna, Shrewsbury.

ENTRIES CLOSE AUGUST 5th.

SCREW-CAP HONEY BOTTLES,

English Make. Cheap. Clean. Handy.

16-oz. size, per 10 doz., 12/9; 7-oz. size, per 6 doz., 7/-. Packing free.

"EXPERT SMOKER" STILL THE BEST.

Both hands at liberty to work frames. Price 2s. post free. EASY to LIGHT and KEEP ALIGHT.

W. T. GARNETT, Steade Road, Sheffield.

MODERN BEE-KEEPING

ost free, 7d.

The most useful Guide for Cottagers and others commencing to keep Bees.

Nearly 50,000 already sold.

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SWARMING SEASON, 1896.

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Because it is the only one in the WORLD that has been PROVED and found to be a Success!!

Send post-card for Leaflet to G. W. HOLE Patcham, Sussex.

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(PROVISIONALLY PROTECTED.)

MADE by the A. I. Root Co., Medina, O., is sold to Dealers only through

WM. BOXWELL, Patrickswell, Co. Limerick,

who is also Wholesale Agent for ROOT'S WHITE EXTRA POLISHED SECTIONS, a consignment of which has now arrived at London.

The above goods are sold to the public by Messrs. J. H. Howard, Holme; D. Raitt, Blairgowrie; G. Rose, Liverpool; J. Lee & Son, London; W P. Meadows, Syston J. S. Greenhill, Wimbledon.

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1-LB. OCTAGONAL JARS,

SHORT AND SQUARE-SHAPED JARS,

ALL WITH SCREW CAPS AND CORK WADS.

ALSO 1-lb. and ½-lb. TIE-OVERS,

TALL AND SHORT,

Ready for immediate delivery.

No delay. Can be put on rail at once.

Screw-Caps	21s. 6d.	per gross.
Tie-Overs, 1-lb.	15s. 0d.	,, ,,
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A. W. HARRISON,

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Chapman's Honey Plant Seed and directions, 6d. packet Seeds of 12 sorts of Bee Flowers and directions for 1s.

THE VERY BEST.—THE NEW AMERICAN FOUNDATION

Arriving, large consignment of HONEY BOTTLES usual reliable quality, tie-overs and screw-cap (with cork wad). Dealers and buyers of big lots should write requirements for special prices. I can spare about 50 three-gross crates of each, but if you want a crate or more at cheap cash price, write at once; when I warehouse, prices must advance.

SECTIONS, WITH SPLIT TOP, 2/6 100.

Headquarters for Great Britain. Buyers of big lots should write stating quantity wanted.

"Porter" Escapes, each 10d. (postage extra).

HONEY AND WAX EXTRACTORS.

NEW TRANSPARENT WINDOW BILLS, very neat—

"Honey from our own Bees on Sale Within."

"New Laid Eggs for Sale Within."

4d. each, post free.

Smokers, 3s. 6d. each; Veils, 1s. each; well made Hives complete, with Frames, &c. from 12s. Try my "Favourite Guinea" ("W.B.C.") Hive. Standard and Shallow Frames, 1s. 2d. dozen. FOUL BROOD.—Naphthol Beta, with directions, per packet, 1s.

GEORGE ROSE, 50, Gt. Charlotte-street, Liverpool.

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EXTRACTORS.

There are practically no others made.

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APIFUGE PREVENTS STINGS.

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NO WAITING.

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CATALOGUES FREE. QUOTATIONS GIVEN.

Editorial, Notices, &c.

FOUL BROOD AND THE BOARD OF AGRICULTURE.

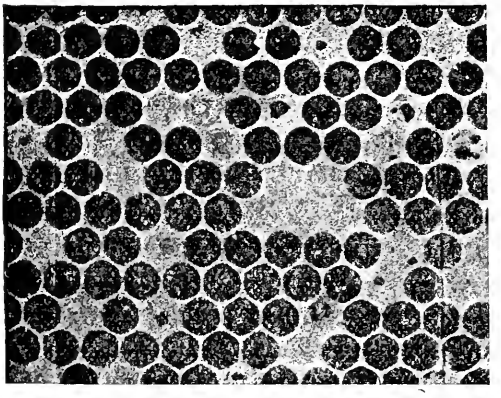
THE full text of the leaflet just issued by the Board of Agriculture, which we print below, will help to make clear the nature of the disease with which it deals, and there are good reasons for hoping that its free distribution—by Government authority—will have the effect of forcing home truths regarding foul brood which should be generally known by all who have anything to do with bees, altogether apart from systems of management. Differences of opinion may exist as to the relative merits of modern bee-keeping and the old or skep system, but there can surely be no divergence of views regarding the need for stamping out so common an enemy to success in the pursuit as is dealt with below :—

Leaflet No. 32.

BOARD OF AGRICULTURE.

FOUL BROOD OR BEE PEST.

Foul brood or bee pest is the most terrible scourge of apiculture. It spreads so rapidly by contagion in a single season that, unless precautions are taken, a whole neighbourhood



Comb infected with Foul Brood.

may become affected, and the chances of successful bee-keeping therein will be seriously imperilled, if not utterly destroyed.

Foul brood is caused by a rod-shaped micro-organism, called *bacillus alvei*, which increases by splitting, and has, under certain conditions, the power of forming spores It is important to note that bacilli are present in the earliest stages of the disease, but in the latest, when brood has become rotten and coffee-coloured or has dried up to a scale, they turn to spores. These represent the seeds of the evil, and retain the power of germinating into bacilli when in contact with a suitable nourishing medium at a proper temperature, even after the lapse of long periods.

They are endowed with wonderful vitality. Freezing and boiling, carbolic acid, phenol, thymol, salicylic acid, naphthol beta, perchloride of mercury, as well as creolin, lysol, eucalyptus, and naphthaline, which evaporate at the ordinary temperature of the hive, prevent the growth of bacilli, but have no effect on the spores. From this it will be seen how great is the difficulty in curing foul brood, unless the disease is attacked in its earliest conditions.

When stocks are found weak, working languidly, very slightly profitable, and swarming little, foul brood may be suspected. If it is present, an examination of the combs will show some cells (many or few) with dying or dead larvæ in them ; others with their covers sunken or perforated (see illustration), while the cells of healthy brood are usually compact, and the grubs are plump and of a pearly whiteness. When healthy, the young larvæ are curled up in crescent shape at the base of the cells. On the other hand, if diseased, they will be found extended horizontally in the cell, presenting a flabby appearance, and of a pale straw colour. As they begin to decompose, the colour changes to brown. They then dry up till all that remains of them is a brown scale adhering to the side of the cell. Should the larvæ survive until capping takes place, a few of the cell-covers will be found here and there slightly indented and darker in colour than those of healthy brood. The capped cells will be observed in irregular patches and mostly perforated. On removing the capping, the contents will be seen to consist of a putrid, sticky, elastic, coffee-coloured mass, formed of the rotting larvæ. The bees do not seem to have the power to clean out the foul cells, and so they remain, spreading infection within the hive, until the stock becomes too weak to defend its stores, when some neighbouring colony probably robs it, and in doing so carries away the seeds of disease and death, which are thus spread, until all the hives of a neighbourhood may be fatally affected.

Hives in which foul brood exists give forth a sickly and unpleasant smell, and when the disease is of a malignant type and in a very advanced stage, the foul odour may be frequently detected even at some distance from the entrance.

It should be noted that chilled brood must not be mistaken, as it very frequently is, for foul brood. In the former the dead larvæ turn first grey, and afterwards become nearly black (never brown, as with foul brood). The

larvæ, dead from cold, are also generally removed by the bees, but they seldom attempt to carry out those which have died from disease, unless disinfectants to arrest decomposition are used. Adult as well as immature bees suffer from the pest, but these leave the hive to die.

Experience has plainly shown that with foul brood—as in all epidemic diseases—the weak, sickly, and badly nourished are attacked, and become centres of infection to others. So it often happens that as colonies become weak, bees from healthy hives rob them of their honey, and thus carry off the germs of the disease along with their ill-gotten gains.

Another very important point is that the bee-keeper may himself be the means of spreading the pest by indiscriminately manipulating first diseased and then healthy hives, without taking proper precautions to disinfect himself and his appliances. Combs which have contained foul brood retain the spores. The queen lays eggs in the cells and the workers deposit their honey and pollen in them. Both honey and pollen in this way become vehicles for the transport of the disease to the larvæ in the process of feeding by the nurse bees. Under no consideration should infected hives or combs be knowingly exposed to the visits of bees. Carelessness in this respect may work immense mischief to neighbouring stocks and apiaries.

In endeavouring to get rid of foul brood, efforts must be made to raise to a high standard the lowered vitality of the bees, which first enabled germs of the disease to get a footing. This will be effected by keeping only strong stocks, with young and prolific queens, and good wholesome food, combined with cleanliness and proper ventilation.

Foul brood is so extremely contagious that it is advisable at all times to adopt preventive measures against infection. Naphthaline in balls is generally used for this purpose ; two of these, split in half, being the proper dose. The pieces are placed on the floorboard of the hive in the corner farthest from the entrance. The temperature of the hive causes the naphthaline to evaporate, and it must be, therefore, renewed as required. All syrup used for feeding should also be medicated with naphthol beta. When the bee-keeper has been in contact with diseased stock, clothes, appliances, and hands must be washed with carbolic soap, and other articles disinfected by spraying with a solution of 1 oz. Calvert's No. 5 carbolic acid in 12 oz. of water.

It was formerly thought that honey was the only source of infection, so that, if bees were starved until they had got rid of the honey carried by them from the diseased hive, a cure would be effected. It is now known that the starvation method, good as far as it goes, has always failed from the fact of its not being supplemented by disinfection of hives and appliances.

When the disease is discovered in a weak colony, the destruction of bees, combs, frames, and quilts, together with a thorough disinfection of the hive, is by far the best course to pursue. The spores are thus annihilated, and the source of infection removed.

If, on the contrary, the colony be still strong, the bees may be preserved by making an artificial swarm of them. They should then be placed in a straw skep and fed on syrup to which three grains of naphthol beta have been added to every pound of sugar used, the naphthol beta being dissolved in alcohol and added to the syrup while still warm.

The infected frames, combs, and quilts should then be burned, and the hive disinfected by being either steamed, or scrubbed with boiling water and soap, and then painted over with a solution of carbolic acid (one part of Calvert's No. 5 carbolic acid to two parts of water). When the smell of the disinfectant has disappeared, the hive will be ready for use. The bees must be confined to the skep for forty-eight hours, by which time all honey they may have taken with them will have been consumed, and such of the bees as are diseased will have died off. Those remaining should then be shaken from the skep into a clean frame-hive furnished with six frames, fitted with full sheets of comb-foundation, and must be fed with medicated syrup for a few days longer. The skep used as their temporary home should be burnt. In order to avoid chance of robbing, all such work as is here described should be done in the evening, when the bees have ceased flying for the day.

It may be added that, in attempting remedial measures of the nature described, it would be desirable, wherever such help can be procured, to seek the advice of a competent expert.

4, Whitehall-place, London, S.W.,
July, 1896.

Copies of this leaflet are to be obtained free of charge and post free on application to the Secretary, Board of Agriculture, 4, Whitehall-place, London, S.W. Letters of application so addressed need not be stamped.

THE BRITISH BEE-KEEPER'S "GUIDE BOOK."

We are naturally much gratified at the unanimous expressions of approval with which the fourteenth edition of the above work has been received on all hands. The fact that well on for two thousand copies of the book have been distributed since the new edition came out last month also affords remarkable testimony of the favour with which the changes made in the present issue are regarded by bee-keepers. It is not often that so large a sale of what is, of necessity, a purely technical work is secured, and this, too, without any advertising whatever beyond

what has appeared in our own journals. So far, no single word of adverse comment has reached us, while the favourable criticisms from practical men have been hearty and general enough to prove that as it now appears the book fully answers the purpose for which it was written, and we make no apology for recording the pleasure this fact affords us.

JOHN HUCKLE MEMORIAL FUND.

We have not been notified of the amount subscribed locally to the above fund, but so far as the sums received or promised per the BEE JOURNAL they are as under :—

	£	s.	d.
The Baroness Burdett-Coutts ...	10	0	0
T. W. Cowan	1	0	0
John Walton	0	5	0
W. B. Carr	0	5	0
D. B. E. Jones	0	2	6
H. W. Brice	0	2	6
J. M. Hooker	0	2	6

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

*** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

[2568.] *How to Glaze Sections.*—I find my last notes on glazing sections have produced an echo from several parts of the country, some enquiring how to do it, and some "how it is to be done at 6d. per dozen." To the last enquiry I say the squares of glass cost about 2s. 6d. per gross (5d. per dozen), strips of paper 1d. per dozen, paste to affix same per dozen "a minute fraction." No doubt most local glaziers might want 3d. or 4d. per dozen to cut the glass, but by going to a glass merchant and ordering a few gross they can be got at 2s. 4d. or 2s. 6d., cut to the size wanted. But here let me offer a valuable hint to readers: have your glass cut $4\frac{3}{16}$ by $4\frac{3}{16}$. If cut to that size you will not be troubled with sharp corners sticking through the paper.

In the operation of fixing, rest the section of honey flat, or slanting, to suit your convenience in handling, lay on glass, and then gum the paper strip (cut to 17 inches), fold it round, and then turn it down. Practice will make perfect in this. Most use thin glue; some use strong paste. Possibly "Stickphast," may do very well for the job.

In caring for honey, store it in a dry, clean cupboard or room as warm as possible, and don't forget to stand the sections in the same position as worked on the hives; place sheets of paper between each layer of sections. Not more than four layers of sections should be stacked on each other—unless some means are devised to keep the weight off the actual sections—or the bottom ones will show signs of the pressure. On the other hand, when sections are a shade lower than sides of the crates in which they stand, any convenient number may be stacked on each other as the weight is borne by the sides of crates.

Referring to stings, any antidote used ought, in my opinion, to be injected immediately. Here is an opening for an enterprising man to bring out, an injector and antidote suitable for the waistcoat pocket. I notice that one of your correspondents advocates sucking the part stung. This is an old and useful method, but when the sting happens to be on one's ear or say the end of the proboscis, or even the chin, how are these parts to be got within reach of the powers of our own suction? We should have to call on the "dear squaw" to perform the operation. For myself, I never wait to open a knife to remove a sting, my finger nails furnishing all the mechanism needed to remove the barb when implanted in any reachable part.

Mr. Brice, I notice, has both "native" and "hybrid" queens for sale; may I ask how the mating of these queens is managed, and if all are reared in the same apiary? I should suppose that the mothers are English or Ligurian, as the case may be, and the drones? Would the daughters of an English queen mating with a Ligurian drone be considered English or native, or how are the queens classified? I should expect that if I reared English queens, and there were Ligurians in the neighbourhood, that I should get a mixture. It will be very interesting if Mr. Brice will give us his *modus operandi* in securing pure natives, if his hybrids are reared and mated in his home apiary, and if apart, how far apart?

Open-air Feeding.—I have tried this with very good results, but find that strong stocks, even when well supplied with stores, always come in for the lion's share of the syrup, which is only reasonable, as they have a larger number of carriers. However, it saves a lot of trouble; but I should certainly feed such lots that I knew wanted a larger supply in the hives, and let the others take their shance at the apiarian feast by the pond side.

"South Devon Enthusiast's" method of feeding medicated food in the open is a very good one, and one I have advocated more than once in these pages as likely to retard the development of the bee-pest. This, with a plentiful supply of naphthaline given to your neighbours, or put into their hives for them, will do something to circumscribe the area of infection, and then when the "Act" passes—but I fear our "Act" is amongst the innocents

that have been massacred of late ; or it is still in an embryo state, waiting further development?—W. WOODLEY, *Beedon, Newbury.*

DEALING WITH VAGRANT SWARMS.

[2569.] With reference to the editorial remarks on my letter (2553, p. 274) may I be allowed to say that I took it for granted that the intelligent bee-keeper for whose benefit I wrote would be acquainted with the general condition of the hives in his neighbourhood and would act accordingly. In genial South Devon, at any rate, such knowledge is easily won. I have yet to meet with a surly brother of the craft.

And yet there is one class of bees with which it is hard to scrape acquaintance—I mean vagrant swarms ; and I think that these should either be captured or, if this cannot be—I suggest it with reluctance—destroyed. It would be highly interesting to learn whether a case of foul brood has so far been discovered in the abode of such a colony. At any rate there is a risk of it which it would be well to do away with. And, beyond this, there is the disadvantage of possible interbreeding between these bees and our own stocks. It must have been noticed that the bees of escaped colonies are generally small and often fierce. Small, no doubt, because the abodes which they have had perforce to occupy are often small and incapable of expansion, so that the comb-cells, from having served as cradles for many generations, have become contracted : and fierce, maybe, because the shyest of wild animals are those that have escaped from captivity, while the tendency is capable of transmission.

A few hundred yards from my own hives two truant colonies have been established for I know not how long, in holes high up in lofty trees, which grow on a steep slope and have fairly sound trunks of hard wood. Now the progeny of some of my last season's young queens has turned out unusually small and irritable, and I have reason to believe that these queens mated with the wilding drones, and hence the trouble. It is doubtful whether I shall be able to harden my heart enough to destroy these woodlanders ; but I cannot capture and yet should like to be rid of them.

The mention of contracted cells reminds me that it is to be hoped our editors will not fail to give us any news that may come to hand of the French experiments for increasing the size of bees, lately mentioned in the B.B.J. If really carried out, these experiments would be most interesting, and, I am quite inclined to believe, might be successful. Some few years ago I wrote advocating the use of drone foundation for shallow-frames and sections, and was told that drone foundation could be easily procured. All I could come across, however, was not true drone cell foundation, but of a somewhat smaller base. Since then the full-sized base has been adopted, and has, I believe, found favour in many places. The large cells have decided mechanical advantages, and I hold now, as I did then, that by gradually increasing the size of the base, the bees could be induced to draw out still larger cells, and store them with honey.

I wonder if any bee-keeper could make useful suggestions or would join me in working out this interesting problem? It is rather a large enterprise to undertake single-handed.—SOUTH DEVON ENTHUSIAST, *July* 25.

[Referring to our correspondent's inquiry whether foul brood has been found in the abodes of vagrant swarms, there is no doubt whatever as to the fact, and in drafting the proposed Bill for dealing with foul brood, it was expressly so worded as to cover such cases.—EDS.]

BEE NOTES FROM SUSSEX.

[2570.] The honey harvest is now practically over, at any rate, for this part of the world, where there is no heather ; and, although it is not yet possible to ascertain quite accurately the return per hive, a rough general estimate can easily be made.

One can only join in the general chorus, and say that, on the whole, the results are distinctly disappointing. My own bees derived most of their honey from May blossom, fruit blossoms, and yellow clover. Only the most precocious stocks could take advantage of these ; and it is only from such that I have had much yield. Owing, I suppose, to the drought, which began so early and has continued so long, the white clover has proved an utter failure. Most of it in this neighbourhood was so poor that it has been eaten off by sheep. Still, one large field close by is pretty fair ; but the bees are doing next to nothing. Everything is parched up, and any rainfall will now be too late for this year's outcome. Practically, my bees gathered in nearly all their honey before June 15, at the latest.

On one point I have no hesitation in pronouncing a decided opinion. In my estimation my Italian hybrids are beating their native rivals clean out of the field. They are still storing ; and for docility, industry, and work, early and late in the season, they easily take the palm.

One experience is so astonishing to me that I marvel more and more the later the season. It is, happily, a very pleasant surprise. My bees, so ferocious last year that—as I then complained—they would fasten in dozens upon me whenever a hive was opened, coming round from the front entrance to the attack, hovering about the hive for hours afterwards, and throughout the summer stinging us anywhere they might happen to meet us in the garden—these little furies have become perfectly well behaved, and are as quiet and harmless as flies. We have had no trouble whatever in the garden. On opening a hive the bees neither rise, nor fly at one's fingers, nor hover around,

even when stocks are being divided; but remain quietly on their combs; and I can clean tops of frames from the burr combs—which are my plague—with the bees thick on them, and lift out frames wholesale, without a bee trying to resent the interference. The alteration is really very striking. The more so since, just to make us positive that the change is in the bees, and not imaginary or in ourselves, the inmates of just one hive, the "Wells," unfortunately, are quite as savage as ever, and we really dread the necessary manipulation of those two stocks, and avoid touching them oftener than is absolutely indispensable.

One or two other points are puzzling to me. One is, the vast difference in the returns of different stocks. Of course those late to work have had no chance, and if one had stimulated all up to full strength so early as was necessary this year there would have been a great risk (had the spring proved normal) of having to feed them throughout May—a serious undertaking.

Another puzzle is, why have all my stocks, except the Italians, become weak, some desperately weak, by the beginning of July? Did they work themselves, or their queens, out by their early exertions? Or are the bees more intelligent than we give them credit for being, and did they, foreseeing the coming failure of pasturage for them, begin reducing their numbers betimes? I, for one, am beginning to have a great respect and admiration for the intelligence or instinct—call it what we will—of these tiny creatures, and I strongly incline to the belief that they are far more capable of education than is commonly supposed, and far more intelligent, within the limits of their restricted powers, than we are perhaps always prepared to admit.

However this may be, my bee-keeping is one of the greatest pleasures I have ever known, and I find it an intense relief from the exertions and worries of an unusually busy professional life. I will only add that once more I have found my glass quilts answer perfectly, and that nothing would induce me to give them up, now that three years' trial in spring, summer, autumn, and winter, has shown me their immense advantages and endless comfort.—W. R. N., *Sussex, July* 24.

DAMAGE TO BEES IN TRANSIT.

[2571.] I shall be glad to have your opinion on the following matter:—

I sent a straw skep of bees with three-year-old combs to a gentleman in Kent about the first week in May, and on its arrival it was found that the combs and bees were in a jumbled mass, only about a teacupful of bees being left alive. The consignee at once wrote me, and sent sample of contents. I could see that the skep had been roughly handled in transit, as there was not a whole comb left. I wrote to say it was plainly gross carelessness on the part of the Rail Co., as I had sent bees to different parts of England and not had a mishap like it before. They were packed according to directions given in the B.B.J. The Company refuse to make any compensation. Now, as the bees were packed and labelled all right, I cannot see that we should be the losers through their neglect. They undertook without demur to carry them, and must be held responsible for damage which followed. Ought I, being the sender, to have made the claim? The station-master tells me he would not take in any more bees packed similarly unless put in a slatted crate. If any brother in the craft has had a similar grievance, I shall be very pleased to hear how he mended matters? Trusting you will kindly append your views of what is best to do at foot—JOHN LYON, *Cambs.*

[The question of liability is one which depends entirely upon the County Court Judge before whom your claim against the Railway Co. would come if brought to trial. Therefore our own opinion will have little or no weight. It is one thing to give directions for packing bees in print, and quite another to decide whether or not the directions have been properly carried out. So that even though the directions in BEE JOURNAL were quoted, the real point would be the value of the evidence offered by those who had handled the bees, yourself, of course, included.—EDS.]

BEE NOTES FROM MANCHESTER.

[2572.] The season here opened most propitiously. Swarms early, stocks strong, surplus honey from spring blossoms, everything to cheer the heart of the bee-keeper, who, piling up his supers, hoped to reap a bountiful harvest from the clover. And then, when the fields—nay, the very lanes and roadsides—were one mass of whiteness, when the moment of the realisation of his hopes was at hand, he was treated to choice selection of weather "samples," which brought low his hopes. Cold, dull weather and rain kept the bees at home, and the clover harvest "was not." Still, from the limes we got a week's gathering, and with the gleanings from the clover aftermath, our tale of surplus will pay a moderate "divi." on the year's working.

Bees Refusing to enter Sections.—I have noticed frequent queries under this heading, and am frequently asked by members about here how it is the bees won't go up into the supers. I generally tell them I am not good at conundrums; but an inspection of their supers speedily supplies the answer. A couple of thin quilts over the top of the crate, and absolutely nothing round it, nor over the ends of the frames of the brood-nest, and then often so slovenly spaced that scores of dead bees are found between them. Personally, I never experience any difficulty in

getting bees up. Super at the right time, before preparations for swarming have commenced. Lightly pack round the crate with felting—old newspapers will do—and cover over the top with several layers of old carpet or old garments (cast-off under-vests make excellent top packing), and a layer or two of straw wine-bottle covers, and the bees will go up; at least, I find they do. There is another thing to be observed, though, and that is to put your excluder on in a proper manner. I do not allude to the direction in which the slots run, for I find them equally taken to whether at right angles or parallel to the frames of the brood chamber. There is a right and a wrong side to the excluder, and if you will pass your hand over each side of it you will find one side perfectly smooth, but the other is quite rough, and almost cuts your hand as it passes over. A little consideration will show you that this rough cutting edge must impede the bees; therefore see that the smooth surface is placed next to the body-box.

Flat-Bottomed Foundation. — I have again to report non-success from the use of this. Several racks on different lines were fitted up with this, interspersed with "natural base" and "starters" only. In every case the flat-bottomed has been refused, while the natural base and starters have been worked on. I have taken off racks in which "flat-bottomed" foundation has been entirely ignored whilst all the others have been finished. From other members, and especially beginners, I have heard the same tale, and the melting-pot this year will see a great quantity of this commodity.

Foul-Brood Preventives.— I always use naphthol beta in my syrup, and naphtholine in the hives, and counsel all bee-keepers to do the same; indeed, when on my rounds I carry the latter with me, and present some to those who don't use it or have run out. I firmly believe in it—yet what can we do when a "first-class expert" and "foul-brood specialist" tells people it is no good, and asks them "Why they use that stuff?" taking it out of the hives and stamping it under foot? In the face of the teachings of the new editions of "Modern Bee-Keeping" and "Cowan's Guide Book," how do you reconcile this? — FREDERICK H. TAYLOR, Local Hon. Secretary.

[We should be very pleased to have the name of the "first-class expert" referred to. It might be useful information to get at the soundness or otherwise of the particular views he expounds on the subject, with the object of testing his capacity for retaining the certificate he holds.—EDS.]

SECTIONS FOR SHOWING.

WIDTH OF EDGING AT YORKSHIRE SHOW.

[2573.] I should be much obliged to you if you could find room for a few words from me in your Journal about the making-up of sections for shows. I have just returned from the Yorkshire Agricultural Society's Meeting, at which there has been a magnificent display of honey, and after conversations with bee-men there I feel that the matter of making-up sections needs the consideration of those in high places among us; of course I mean in regard to the width of the covering case and "lace-edging" across the face of the comb. Should there not be some maximum limit to the hiding of pop-holes in this way? I think so. At York there were some sections covered for as nearly as possible three-quarters of an inch each side. In the interests of judges (who cannot possibly take each section out of its case), and of competitors alike, there should be some rule on the subject, and the breaking of it should disqualify an exhibitor. The best of all ways of showing sections, in my opinion, is to put them in the old-fashioned folding glass-case, which hides nothing; but if this cannot be, let there be a limit to the width of lace-paper edging. I am not writing as a discontented exhibitor, for my own help to the York Show received ample notice from the painstaking judge, and I am quite willing to give my name and address.—SIDNEY SMITH, *Wheldrake Rectory, York, July* 25, 1896.

[So far as width of edging for sections, it is quite a customary rule at important shows to limit the width to $\frac{3}{8}$ of an inch. Why this was not done at the Yorkshire we cannot say. The Yorkshire Bee-Keepers' Association would no doubt get the matter righted if appealed to.—EDS.]

EXPERT HELP WANTED.

[2574.] If your correspondent "W. H. C." (p. 279 of B.J. for July 9) is resident in this district I shall be very pleased to help him, if I can.

The fact of such help being required leads me to ask, Why cannot this magnificent county for bees raise and support a bee-keepers' association?—FREDK. P. SMITH, *Digbys, Exeter, July* 21.

TRANSPARENT WINDOW BILLS.

[2575.] Referring to Mr. W. Woodley's suggestions on page 284 of BEE JOURNAL for the 16th inst., I have seen my printers upon the matter.

The difficulty, of course, is that to print transparencies "Pure English Honey, from the apiary of Mr. (or Mrs.) ——, sold here," means specially printing the whole transparency for each Mr. or Mrs., as it is not practical to print and leave vacant space to be filled in by indiarubber stamp, or even ordinary printing. There is nearly the same labour and use of machines for, say, 100 as for 1,000; the cost of 100 specially printed will then be proportionately higher.

If large honey producers will respond to Mr. Woodley's suggestion I will undertake to supply to all applying 100 transparencies printed as suggested, with the producer's name in bold letters, for 10s. per 100. I think with Mr. Woodley it would be a remunerative outlay, and it would have the one effect at least of holding customers to the producer. A tradesman who once puts such a transparency well on his windows will find it a difficulty to get it off, and is likely, having thus publicly given out whose honey he sells, to be very reluctant to change.—GEORGE ROSE, *Liverpool, July* 20.

Queries and Replies.

[1521.] *Varieties of Honey from One Hive. Deposing Good Queens.*—Will you kindly give me your opinion of samples of honey sent? They are all from one hive, and correspond with five supers. The first super was put on April 8, the second being added on the 22nd; third one given on the 28th. All of these supers were filled with shallow frames previously extracted from. The hive is a "W.B.C." ten frame one. The first super had its contents extracted, and was then placed below, May 8; second super similarly treated on the 23rd; and the third super on the 30th. The fourth super (originally the first) dealt with in same way on June 16, and the fifth super on the 20th; this latter, however, was not returned, so there are two supers on the hive now, both nearly sealed over. 2. What do you think the colour of No. 5 is due to? Last year the third super got from same hive was almost pale as water, and I had no dark honey at all in '95. The district yields respectively dandelion, fruit-blossom, and red trifolium (with the long spikes) and Dutch clover. The latter has been a failure, owing to the great drought, and red trifolium nearly so. There seems nothing now but blackberry; this, however, is blooming in profusion. For the last week or so the bees of the hive have been bringing in pollen, and there seems plenty of young bees. Last year the hive yielded 172 lb., this year it will be more. This is the queen's third year (bred in the autumn of '94), unless she has been deposed, as they have never swarmed. 3. I notice in reply to 1511 (p. 287), you advise not to re-queen this year where the queen is stated to be in her third year. Why this advice? 4. Will it apply to my case?—FREDK. P. SMITH, *Digbys, Exeter, July* 21.

REPLY.—1. The variation in honeys sent are due simply to the different sources of supply from which the bees gathered at respective dates. No. 1 is poor in flavour, maybe from dandelion; 2, fairly good; 3, better than 2; 4, better than 1, but not equal to 2 or 3; 5, strong, and rather rank in flavour, probably from red trifolium (*trifolium incarnatum*). All five samples are of excellent consistency, being thick and fully ripe. 2, 3, and 4 are also very good in colour; No. 1 very fair, while No. 5 is rather dark. 2. No doubt it is due to the bloom from whence it comes. 3. The lateness of date at which the proposed re-queening could take place, and the fact of our querist being an entire novice made any attempt in that line very unadvisable. 4. Under all the circumstances, decidedly yes; besides, a queen hatched in the autumn of '94 cannot be in her third year in July, '96. But apart from this, and the possibility of the bees having re-queened the hive, a queen which has bred bees enough to fill five boxes of shallow-frames with honey this year is surely well worth preserving for another season.

[1522.] *Young Bees Dying Outside Hive.*—In your issue for May 7, p. 186, I noticed a query (No. 1,463), which quite covered my own case, and after reading your reply thereto, I fed my bees, and thought they might perhaps come out all right. But I am sorry to say they still kept on creeping out and dying. I, therefore, drove them this morning, and send you the queen and some bees, together with a piece of comb containing brood. I found, after driving, there was scarcely any honey, but a good lot of bees. Would it be advisable to add a driven stock, with queen, to the bees now returned to the skep? You might also please let me know if there is any disease in the comb sent, and what is best to do with the bees which are now queenless?—JAS. JONES, *Newent, July* 23.

REPLY.—The bees, so far as can be judged by comb sent, are entirely free from foul brood, and you cannot do better than follow the course proposed, viz., uniting a driven lot with queen to the stock in skep. Supposing the trouble to arise from what is usually termed the "nameless bee disease" there can be no better remedy than re-queening. Quite a number of young bees hatched out from the cells of comb sent during the day it was received here, and they all took food readily when offered them, so that if they would only cease creeping out of the hive before acquiring the necessary age and strength to enable them to take wing, it is difficult to see why they should not be all right.

[1523.] *Bees Refusing to enter Sections.*—1. In last week's issue your correspondent, "C. E. G.," gives (2563, p. 293) reasons why bees, in some cases, refuse to work in sections over queen-excluder zinc. I have experienced this difficulty, and also found that immediately the queen-excluder is removed, the bees commence work in the sections without any additional covering for heat being added. But, in a rack holding twenty-one sections, only about half a dozen of them are quite free from brood; the others contain partly drone-larvæ and

partly honey, or drone grubs only. Half of the contents of the super is therefore quite spoiled for my purpose, as honey deposited in cells from which drones have hatched out can only be used as extracted honey, which I don't want. In one hive the bees came up through the queen-excluder zinc, completely filling the super, and I was in hopes that they were building comb. Two days afterwards, however, the bees swarmed and left the super as empty as when put in, without any work having been commenced on the foundation. 2. Can it be, in C. E. G.'s case, that the queen-excluder zinc was removed after the queen had laid all the drone eggs she intended in the body of the hive, and that that had more to do with the bees filling the super with honey only than the added warmth?—N., *Kintore, N.B., July* 25.

Reply.—1. Apart from our correspondent's unfortunate experience as to sections being spoiled by brood, it is well-known to practical honey producers that warmth is a most important factor in first getting bees to start work in sections. At certain seasons, and under certain conditions, they will enter any cold rough receptable offered them for storage room, and will pass any obstacle (excluder zinc included) to build combs therein; but this does not lessen the need for enticing the bees into sections by any such simple means as are, as a general rule, recommended. 2. The fact of the queen having already laid drone eggs in brood-chamber below, would have no influence in preventing her from ovipositing in the sections. Had she needed "egg-room" and chanced to wander on to the combs in surplus chamber she would have certainly laid eggs there.

YORKSHIRE B.K.A.

The annual exhibit of hives, honey, and appliances was held at York, July 22, 23, and 24, under the auspices of the Yorkshire Agricultural Society, to whose Secretary (Marshall Stephenson, Esq.) the Association is under considerable obligations. A commodious shed fifty yards by ten, was allotted to bee-keeping exhibits, the staging being effectively draped with crimson baize, whilst the exhibitors supplied cut flowers in quantity, which gave to the whole an admirable decorative character. The Rev. R. M. Lamb was provided with a separate shed, in which was a glass structure suitable for the extraction, bottling, and sale of honey before the eyes of the interested spectators.

To emulate the "Royal" is commendable, and the "Yorkshire," having a later season, are pleased to be able to do this, and even surpass it in the quantity and general excellence of the honey, the "Trophy" honey being particularly well set up. Mention should be made of the collections of bee appliances, which were all excellent of their kind. The lecturing in the bee-tent was conducted by Mr. R. A. H. Grimshaw, Hon. Secretary of the Y.B.K.A., assisted by Mr. W. Dixon, expert.

The Rev. R. M. Lamb judged the bee exhibits, and made the following awards:—

Collection of Bee Appliances.—1st, Wm. Dixon, Beckett-street, Leeds; 2nd, A. C. Jemeison, Dringhouses, York.

Most Complete Frame Hive.—1st, Wm. Dixon; 2nd, A. C. Jemeison; 3rd, Thos. Rothery, Sutton, Tadcaster.

Observatory Hive.—1st, Wm. Dixon; 2nd, A. C. Jemeison; 3rd, Robert Ness, Sproxton Abbey, Helmsley.

Honey Trophy.—1st, Thos. Walker, Howden; 2nd, W. Dixon; 3rd, Miss S. J. Cooper, Leicester; reserved, Mrs. Kirk, Stillington, York; highly commended, Rev. Sidney Smith, Wheldrake Rectory, York.

Twelve 1-lb. Sections.—1st, Wm. Smith, Preston, Hull; 2nd, George Remmer, Knedlington, Howden; 3rd, Robert Ness; reserve No., H. W. Seymour, Henley-on-Thames; highly commended, Thos. Walker; commended, Mrs. Kirk.

Twelve Pound Extracted Honey, 1-lb. Jars.—1st, Jonathan Atkinson, Kirk Hammerton, York; 2nd, Thos. Walker; 3rd, H. W. Seymour; reserve No. and highly commended, Rev. S. Smith; commended, W. Richardson, Copmanthorpe.—(*Communicated.*)

Bee Shows to Come.

August 3 (Bank Holiday).—Berks B.K.A. (Newbury District), in connection with the Flower Show. Twelve classes. Liberal prizes.

August 3 (Bank Holiday).—At Greatham, Durham. Northumberland and Durham B.K.A. show of honey in connection with the Annual Exhibition of the Greatham and District Agricultural Society.

August 3 and 4.—At Delapre Park, Northampton, Northants B.K.A. Annual Show. Eight classes for honey and five "special prize" classes open to all.

August 5.—At Neston Park, Wilts. Exhibition of Honey, Bees, &c., in connection with the annual Flower Show. Two open classes for one section and one bottle of extracted honey. Schedules of Mr. J. P. Inkpen, Atworth, near Melksham.

August 5 and 6.—Chester Horticultural Show and Fête. Exhibition of honey, hives, and bee-appliances, on the Roodee.

August 6.—Helmsley and District B.K.A., in connection with the Ryedale Agricultural Society's meeting at Helmsley. Eight honey prizes, five of them open; entries accepted up to post Monday, August 3. Will northern bee-keepers assist us? Entries have come in very

slowly; for schedules apply—Robert Ness, Hon. Sec., Sproxton Apiary, Helmsley, Yorks.]

August 7.—At Strathpeffer, N.B. Strathpeffer and District Horticultural and Bee-keeping Society. Ninth annual show, which includes bees, hives, and honey. Schedules of prizes from J. H. Bisset, Schoolhouse, Fodderty, Dingwall.

August 13.—At Goole, in connection with the Agricultural and Horticultural Show. Bees and Honey. Entries close August 8. J. Luddington and H. S. White, secs., Lindum House, Goole.

August 15.—South of Scotland B.K.A. Annual Show at Dumfries. "Burns Centenary" classes open to all-comers. Schedules now ready. Entries close August 8. James Kerr, Secretary, Douglas-terrace, Dumfries.

August 19.—At Court Gardens, Marlow. Show of bees, honey, hives, and appliances in connection with the Marlow Horticultural Society Show. Seven classes out of ten are open to all. Liberal prizes. For schedules apply to Arthur D. Cripps, hon. sec., Marlow. Entries close August 15.

August 19 and 20.—In the Quarry, Shrewsbury. Honey Fair and Show of Honey, Hives, and Bee Appliances, of the Shropshire B.K.A., in connection with the Shropshire Horticultural Society's great Fête. Over £35 in prizes. Schedules, &c., from T. Whittingham, Upton Magna, Shrewsbury. Entries close August 5.

August 22, at Royton, Lancashire.—The Royton Agricultural Society, in connection with the Manchester and District Bee-keepers' Association. Entries close August 15. Schedules from A. S. Ormerod, 37, Rochdale-road, Royton, Lancs.

September 2 and 3.—At Birkenhead. In connection with the Wirral and Birkenhead Agricultural Society. Show of hives and honey. Two classes for twelve sections and two for twelve jars extracted honey; one of each being open to all. Open class for best frame-hive. Liberal prizes. Entries close August 19. Schedules from Arthur H. Edwardson, 28, Hamilton-street, Birkenhead. The bee-tent of the L. and C.B.K.A. will be on the ground and lectures given each day.

September 8.—At Moorgreen. Notts B.K.A., in connection with the Greasley, Selston, and Eastwood Agricultural Society. Open class for a 1 lb. bottle of honey. Schedules ready. Apply Geo. Hayes, Mona-st., Beeston, Notts. Entries close August 29.

September 9 and 10.—At Derby. In connection with the annual show of the Derbyshire Agricultural Society. Fifteenth Annual Show of the D.B.K.A. as above. Liberal prizes for bees, hives, and honey. Six of the eighteen classes are open to all comers. Schedules from F. Walker, Cattle Market, Derby.

September 16.—Wotton-under-Edge B.K.A. Annual Show of Honey. In the Church Mill. Schedules from E. W. Read, Hon. Sec., Wotton-under-Edge.

September 26.—At the Corn Exchange, Jedburgh. Annual show of Roxburghshire B.K.A. Twenty-eight classes, all open to members free of entry-fee. Entries close September 22. Thos. Clark, secretary, Pleasants Schoolhouse, Jedburgh, N.B.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

A. Pollock (Hyde).—*Bees Refusing to Work in Supers.*—Few simple questions are more difficult for an outsider to answer than why bees—the bees of a certain hive—won't work in supers? And if they have, while strong and healthy, for two successive years persistently refused to do so, one naturally attributes it to some fault in the hive, or in the supering arrangements. Anyway, it is certain that one main cause of bees refusing to enter sections is that too little pains are taken to render the surplus-chamber sufficiently snug and warm for their purpose. Did the make-shift arrangement used in lieu of section-rack have this effect in your case? Because it would be futile to depend for warmth on top-coverings only if the heat escaped in other ways. This is the only way in which we can account for the refusal if the bees were strong and honey plentiful. You should try some other form of hive to that now used, and compare results.

R. Dymond (Southgate).—*Making a Nucleus Swarm.*—1. When the four combs of brood and food are placed in the new hive, after shaking the bees from them, the queen—previously procured and ready—is then caged on one of the combs. This done, the new hive so prepared is at once set on the stand of a strong stock (the latter being removed to a distance). The only precaution needed is to choose the middle of a fine day for operating, when the greater portion of the bees are out foraging. 2. Honey may be diluted with a little warm water when used as bee-food, but it is not imperative to do so.

Clwydian (North Wales).—1. Bees are so smashed in post that all difference in colour is gone. 2. Strong lots of driven bees will draw out foundation as late as this, but must be fed well and regularly to enable them to do it. 3. Heather sent is "bell heather," not the true "ling," or honey heather.

B. Attitude (Sheffield).—1. The moth sent is the true wax moth, so damaging to weak stocks at times. 2. The "specimen" suspected to be foul brood is nothing worse than a bit of propolis. 3. We should call a

queen "hatched from the egg in thirteen days" a very precocious young lady indeed, though it is well known that, under very favourable conditions, the development of queens is retarded or expedited by as much as forty-eight hours between the maximum and minimum time taken in hatching.

R. HUGGUP (Northumberland). — *Ripening Honey*—1. Honey should be *ripe* when extracted; not ripened afterwards. The "ripening" referred to simply means allowing it to stand in a warm room and skimming off the thin portion if any such should rise to the top of bulk after standing a few days. 2. It is best strained at once, in case granulation should begin before "jarring off" is got through.

R. PESTELL (Norfolk).—*Transferring Bees from Skeps.*—Unless you have ready-built combs on hand, or could unite the bees of two skeps in one frame-hive, we should not advise transferring so late as this. The "Guide Book" has full directions how to proceed.

S. HEAD (Wybridge).—*Oil-cloth Covering for Frames.*—If warmly packed above, there is no better impervious covering for frames than oil-cloth (*i.e.*, American leather cloth), used with the glazed side down.

V. H. TIPPET (Skegness).—*Failure in Queen-Introduction.*—1. There is nothing in outward appearance of queen sent to indicate cause of death, nor could it be attributed to anything in course of transit by rail, seeing that she was "active and vigorous" when received. We attribute death to the queen being confined alone in cage until the third day. It must be borne in mind that no amount of overhead coverings will *create* heat, and if no bees clustered about the queen to keep her warm, she would be quite likely to chill and die in three days if left solitary and alone for the whole of the time. 2. Referring to your suggestion that "the bees clustered about the cage" and so "stifled the queen by balling," no such result could possibly follow owing to the protection afforded the queen by the cage in which she was confined.

W. WARWICK (Portsmouth).—Bees sent are both of the common or native variety. They are adult bees, but we cannot state their age. Examining combs for worker brood, to see if virgin queen introduced is fertilised and laying.

W. H. PRIME (Upper Norwood).—There is no way of improving the colour of honey other than by a tedious chemical process, not to be thought of for general adoption.

R. CHAPMAN (Northants).—*Keeping Queens Breeding Late in Autumn.*—The only plan of keeping queens breeding late in season is by stimulative feeding after the honey flow is over.

Several communications and replies to queries are held over till next week for want of space.

Special Prepaid Advertisements.

Situations, Publications, Bee Plants, &c. — Up to Twelve words, Sixpence; for every additional Three words or under, One Penny.

EXTRACTOR WANTED; also Bees, Hives, Appliances, cheap and good. GRIMBLY MINSTER, Thanet. M 82

WANTED, New English HONEY. Send sample, state price, to COPE, 4, West Derby-street, Liverpool. M 80

WANTED, OBSERVATORY HIVE to take two standard bars, in good condition, cheap for cash. W. C. STRONG, Warminster. M 78

STICKS in Hives FOR SALE.—Italians.—Must sell, moving to London. 35s. each to clear. WOODCOCK, 25, Red Lion-street, Clerkenwell, E.C. M 87

EXTRACTED ENGLISH HONEY, in ½ cwts., 6½d. per lb.; tins free, sample 2d. Deposit. DUTTON, Terling, Witham, Essex. M 83

TWO STRONG STOCK BEES, in Strong Standard Hives. 1896 Queen, winter without aid. What offers. ANKER, Nuthope, Banbury. M 88

SCREW-TOP BOTTLES, 16 oz., 2s. doz.; 1896 Queens, 2s. 6d.; Gilt Section Bands, 1s. 100; Clover and Heather Honey now booking. WOOD & TAYLOR, Hathersage. M 81

THREE Good Cheap Bar-frame HIVES of BEES, healthy and young queens, 22s. 6d. each. Four Rapid Feeders, new, 6s.; Super 10 Shallow Combs, Carr Ends, 4s. ARTHUR COOPER, Sunny Hill, near Derby. M 78

WANTED, SECTIONS, EXTRACTED HONEY, and WAX. Packages lent free to Bee-keepers and Associations. Prompt cash. State lowest price. Address Rev. W. HANDCOCK, Hampton Hill, Middlesex. M 15

GUARANTEED Healthy 3-Frame NUCLEI, with 1896 Tested Queen, 10s. 6d. each. Fine 1896 Fertile Queens, 3s. 6d. each. Safe arrival guaranteed. Bees 1s. 6d. per lb. for 5 lb. lots or over. Queen included. Packages to be returned. C. WHITING, Valley Apiary, Hundon, Clare, Suffolk. M 84

STOCKS, Nuclei, Swarms, and Queens.—Address, Rev. C. BRERETON, Pulborough, Sussex.

DRIVEN BEES, with Queen, at end of July; 4s. 6d. per lot. A. MORETON, Bransford, Worcester. M 76

TWENTIETH YEAR.—Pure Black '96 Tested Queen, 3s. 6d. delivered; with Swarm, 5s. on rail. ALSFORD, Expert, Blandford. M 85

ITALIAN (Ligurian) QUEENS. Price for July, 6s. 6d. each; English, 3s. 6d.; Hybrids, 5s. 6d. Carriage paid and safe arrival guaranteed. W. B. WEBSTER, Binfield, Berks. M 56

LACE PAPER for GLAZING SECTIONS. 100 strips, 7d., 200, 1s. 2d., 300, 1s. 6d., 500, 2s. 3d., 1,000, 4s. Post free. Best quality. Neat patterns. W. WOODLEY, Beedon, Newbury.

"HONEY AND ITS USES," 1½d.; 3s. 6d. per 100. Also "MEAD, AND HOW TO MAKE IT," and "VINEGAR FROM HONEY," each 2½d. Small sample bottle of Honey Vinegar, 7½d. Rev. GERARD W. BANCKS, The Green, Dartford. M 57

RELIABLE QUEENS (Ligurian and English). Prolific laying Queens, 5s. 6d. Sent post free in my introducing cage. Safe arrival guaranteed. Orders filled in rotation. HENRY W. BRICE, The Apiary, Thornton Heath.

Editorial, Notices, &c.

USEFUL HINTS.

Weather.—Good bee weather is still the rule, and helped, as it has been, by some hours of soaking rain, pasturage is everywhere refreshed and its growth promoted. This was made apparent to us a day or two ago, during a journey which touched a portion of Herts, Cambs, and Hunts. All along the rail line second-crop bee pasturage was so plentiful that, with the present warm weather, there can hardly fail to be some late honey gathering. The present high temperature and previous rain should also make the prospects of a good return from the heather very hopeful. Our Scotch correspondent, Mr. W. McNally, reports in the *Record* that a "record" season is expected in some parts of Scotland this year, supporting his assertion by quoting a case where a neighbour calculates on securing a "full ton" of honey from twenty-two hives.

Dividing Stocks for Increase.—Those who took the precaution to raise a few surplus queens a month ago, and have them safely mated and laying in nuclei, may now partly make amends for a short honey-crop by increasing their stock of bees for another year's work. We hear of many who possess exceptionally strong colonies at the present time, and where this is the case, and the other requirement is on hand in the shape of laying queens in nucleus hives, there is no reason why two stocks should not be formed from every strong colony in the apiary, if needed. The operation involves nothing beyond depriving a strong stock of as many of its combs of brood as will equalise the nucleus to be added with the colony from which the brood is taken. Thus, if the latter is on eleven frames and the nucleus on three, make up to seven frames each. The divided stock is then moved a little to one side of its original location, and the erstwhile nucleus a little to the other side. Beyond caging the queen of the last-named stock for thirty-six hours, to prevent possible mischief from "balling," and feeding the bees, if natural food is scarce, nothing more is needed. It must be borne in mind, however, that those who undertake the dividing of colonies in this way must possess sufficient experience of bee work to enable them to do a little "equalising" of the flying bees, in case one or other of the hives should get more than its fair share of the population.

Unequal Seasons.—The remarkable dissimilarity in honey seasons is one of the most trying things bee-keepers have to endure; it is, moreover, a fault for which there is no possible remedy. Nor can we, in any attempt at explanation, do more than account for it in general terms. That the honey yield varies greatly both in quantity and in quality all bee-keepers know, but to define the reasons for such difference clearly is by no means easy. Take the present season of '96. In one county we know of, only honey of the finest quality was stored in 1895, and stored plentifully, too; but the yield this year from the same apiaries is a good many grades lower in quality and considerably less than one-half in quantity. This difference between the two seasons, and its effect on honey-producers, affords the opportunity for saying a word on—

Melting Granulated Honey for Sale.—A correspondent, a day or two ago, writes:—"What method should I adopt to market a good quantity of '95 granulated honey similar to sample sent? If I liquefy it at a temperature of 90 deg. Fahr., and bottle it off in the usual jars, will it again granulate shortly and then keep as well as new honey, or is there a probability of fermentation? As my '96 crop is short, I wish to use my last year's produce to supply my customers. Can I honestly sell it without informing buyers that it is not 1896 honey?" The honey sent is from white clover, and is good in quality. Our sample, however, taken, no doubt, from top of the bulk—kept, as we understand, in a large cask—was beginning to show signs of fermentation. This renders melting and heating to about 120 to 150 deg. Fahr. a positive necessity, in order to prevent further damage to the whole lot; but there can be no dishonesty in so dealing with it, nor is there any need for naming the year in which it was gathered unless purchaser asks for new honey.

If carefully *re*-liquefied, by immersing the vessel containing it in water heated as above—or, say, till so hot that the

finger cannot be held in it with comfort —until the honey becomes quite clear and bright, it loses none of its present flavour, and will keep liquid for many weeks to come. The fermentation also—now beginning to start—is far less likely to be again set up than if the honey had not been melted at all. One precaution, however, should always be taken in melting honey after granulation, viz., to have the receptacle containing it raised above the bottom of the pan or boiler holding the water; so that the honey may be completely surrounded by hot water. To subject honey to *dry* heat in an oven or on a stove, is to completely spoil it for table use.

THE BOARD OF AGRICULTURE LEAFLET.—The publication of the Government leaflet on "Foul Brood or Bee-Pest," which appeared in our last issue, will no doubt be welcomed by all desirous of an authoritative statement on the subject. It is brief and to the point, comprising in a nutshell, as it were, all that need be said so far as placing a clear statement of known facts in plain words before readers. Thus, while devoid of all unnecessary verbiage or the use of abstruse or scientific terms, it is so written as to be readily "understanded of the people." For ourselves, we are more than grateful for a short and reliable statement to which we may refer the very numerous class of readers who, in spite of all that has already appeared in our columns, no sooner suspect an outbreak in their hives than they appeal to us for full instructions how to proceed in dealing with it. Thanks to the Board of Agriculture, it will not be our fault if every bee-keeper in the kingdom does not possess a copy of "Leaflet No. 32." We also hope that readers will aid in its distribution by making known to all concerned the fact that an application to the Secretary of the Board of Agriculture, Whitehall, London, will secure a free copy to all applicants. Secretaries of county associations, too, should take care to obtain a free supply from the same source for use wherever needed.

SCOTTISH BEE-KEEPERS' ASSOCIATION.

STATEMENT AND APPEAL.

The Scottish Bee-Keepers' Association was formed in 1891, and reorganised in 1896, to advance bee-culture in Scotland; and more especially to teach the agricultural and labouring classes a more humane, advanced and profitable system of bee-keeping; and to increase the home supply of pure wholesome food. The association will endeavour to carry out its objects:—

1. By assisting in the formation of county and district bee-keepers' associations in affiliation with the central society; and encouraging local shows in connection therewith by grants of medals for competition; and by offering to provide competent judges.

2. By sending out lecturers and experts as qualified teachers and examiners of apiaries; especially in connection with such flower and honey shows as it may be possible to visit.

3. By holding regular meetings at different centres in Scotland, at which papers shall be read by experienced bee-keepers, and a general conference held of all the members.

4. By establishing a market for honey and spreading a knowledge of the most profitable use and disposal of bee produce.

5. By the holding of one or more annual shows of bees, hives, honey, and bee appliances at various central places.

6. By means of its lending library of books relating to bee-keeping, free to members, and all affiliated associations.

7. By reduced entry fees at the association's shows to members of the S.B.K.A. and of its affiliated societies.

These are the leading lines on which the association will attempt to benefit its members and to do its best for bee-keeping in Scotland. Will it have to be said that those who astonished all England at the Great Exhibition at the Crystal Palace, are now content to fall into the rear rank of bee-keepers? Never! Let every bee-man and association join us within the next month. We want an autumn show and conference in Edinburgh. Our smallest contribution is 2s. 6d. annually, but every member who can, might give us 5s., and every association £1, this year, at least, to set us on our feet.

Ask your nobility, gentry, M.P.s, and well-to-do folk for a subscription to this truly national object.

In name and by authority of the committee. —ROBERT M'CLELLAND, Secretary, *pro tem.*, *The Manse, Inchinnan, Renfrew.*

STAFFORDSHIRE B.K.A.

The annual show of the above Association was held at Longton, in connection with that of the Staffordshire Agricultural Society, on July 22-23, in fine weather, the number of visitors being estimated at about 25,000. We learn that the show, as a whole, was one of the most successful recorded in the annals of the Society. In the section for bees, honey, and appliances, the following awards were made:—

Honey in any form (not exceeding 150 lb.),

—1st and gold medal, J. R. Critchlow, Maer, Newcastle.

Twelve 1-*lb. Sections.*—1st and silver medal, P. H. Rawson, Market Drayton; 2nd, J. R. Critchlow.

Twelve 1-*lb. Jars Extracted Honey.*—1st, E. W. Jackson, Milton; 2nd, J. H. Collier, Stafford.

Six 1-*lb. Sections.*—1st, Mr. P. H. Rawson; 2nd, Miss F. E. Smith, Lichfield.

Twelve 1-*lb. Jars Dark Extracted Honey.*—1st, G. R. Dyott, Lichfield; 2nd, J. R. Critchlow.

Twelve 1-*lb. Jars Granulated Honey.*—1st, Mrs. R. P. Cooper, Shenstone Court; 2nd, J. H. Collier.

Twelve 1-*lb. Sections* (Cottagers only).—1st and bronze medal, G. Cheadle, Stone; 2nd, Wm. Clarke, Whitmore.

Twelve 1-*lb. Jars Extracted Honey* (Cottagers only).—1st and bronze medal, Wm. Collier, Haughton, Stafford; 2nd, Wm. Clarke.

Ditto, Six 1-*lb. Jars Extracted Honey.*—1st, Wm. Collier; 2nd, Wm. Clarke.

Twelve 1-*lb. Sections.*—1st, John Stone, Little Cubley, Sudbury; 2nd, J. R. Critchlow.

Twelve 1-*lb. Jars Extracted Honey.*—1st, J. Stone; 2nd, S. Cartwright, Shrewsbury.

Three Frames for Extracting.—1st and bronze medal, J. R. Critchlow; 2nd, S. B. Fox, Maer.

Observatory Hive.—1st and silver medal, J. H. Collier; 2nd, J. R. Critchlow.

Bees Wax.—1st, J. R. Critchlow; 2nd, S. B. Fox.

Collection of Hives and Appliances.—1st, G. H. Varty, Etwall, near Derby; 2nd, Thomson & Co., High-st., Birmingham.

1-*lb Section*, 1-*lb. Jar Extracted Honey, and Cake of Wax.*—1st, J. H. Stone; 2nd, P. H. Rawson.—*Communicated.*

SHOW AT BLANKNEY.

The annual show of the Blankney Horticultural Society was held in the private grounds of Blankney Hall, near Lincoln, on July 29, when an excellent display of honey, bees, and wax was staged. There were fifty-four entries in the various departments, and some of the extracted honey was of first-rate quality, and the exhibit of wax was very fine. The Judges, G. J. Young, Esq., J.P., of Claxby, and Mr. F. J. Cribb, of Retford, made the following awards:—

Observatory Hive.—1st, Dr. P. Sharp, Brant Broughton; 2nd, E. Smith, Louth; 3rd, T. Sells, Stamford.

Twelve 1-*lb. Sections.*—1st, Dr. Horsey; 2nd, T. Sells; 3rd, A. Weatherhogg; 4th, W. Wells.

Twelve 1-*lb. Jars Extracted Honey.*—1st, E. Smith; 2nd, A. Barnes; 3rd, A. Weatherhogg; 4th, J. Bancks.

Six 1-*lb. Sections* (Cottagers only).—1st, W. Phillips; 2nd, A. Barnes; 3rd, T. Coulson.

Six 1-*lb. Jars Extracted Honey.*—1st, K. Barnes; 2nd, W. Phillips; 3rd, J. Rowston; 4th, A. Barnes.

Glass Super (*over* 10 *lb.*).—J. Bancks; 2nd, T. Sells; 3rd, J. Rowston; 4th, W. Allenby.

3-*lb. Beeswax.*—1st, W. Phillips; 2nd, W. Paulger; 3rd, T. Sells; 4th, A. Barnes. (Mr. R. Godson's very fine sample was disqualified as being under 3 lb.)

Two Shallow Frames for Extracting.—1st, A. Barnes; 2nd, T. Sells; 3rd, W. Sells.

The Bee and Honey Department were in connection with the Lincs. B. K. A., and lectures with bee-manipulation Hive, were given during the afternoon by the Expert to the Association.—*Communicated.*

SHOW AT HELSBY.

An exhibition of honey was held at Helsby, Cheshire, in connection with the Horticultural Society Show of fruit, flowers, and vegetables. The amount and the quality of the honey was very creditable indeed, considering that the season is a poor one in the district, and that the exhibition was held for the first time last year. The Judge, Dr. Jones, who also delivered two lectures on Bee-keeping in the course of the afternoon, made the following awards:—

Six 1-*lb. Jars Extracted Honey.*—1st, A. Thomas and J. Hamaman, equal; 3rd, F. W. Dunsford.

1-*lb. Beeswax.*—1st, Rev. E. Charley; 2nd, F. W. Dunsford.

Three 1-*lb. Jars Granulated Honey.*—1st, J. Hamaman; 2nd, not awarded.

Four 1-*lb. Jars Extracted Honey* (limited to owners of not more than four stocks).—1st, J. Hamaman; 2nd, Dr. A. J. Briant; 3rd, Owen Dutton; h.c., A. Newstead.

Special Classes, A. 1-*lb. Jar Extracted Honey* (open, 25 entries).—1st, J. F. Blake, Stockbridge, Hants; 2nd, Mrs. J. Cox, Brampton, Northants; 3rd, G. Fairs, Mundham, Chichester; 4th, W. Loveday, Harlow, Essex; v.h.c., J. and W. Herrod, Sutton, A. Thomas, Frodsham, Cheshire, F. W. Dunsford, Frodsham, Cheshire; h.c., F. Caldwell, Frodsham, Cheshire, A. Hamer, Llanarthney, S. Wales, and J. Griffiths, Alvanley, Cheshire.

Special, B. *Six* 1-*lb. Sections.*—1st, R. Dadd; 2nd, Owen Dutton.—*Communicated.*

BRISTOL, SOMERSET, AND S. GLOS. B.K.A. SHOW AT HENBURY.

An exceedingly good show of honey and appliances was held at Henbury, on July 9, by the above association in connection with the Henbury Horticultural Society.

Lady Smyth (president of the association) paid a visit to the bee department in the course of the afternoon and was much interested in the exhibits.

The tent, which was arranged with handsome plants, looked exceedingly pretty. This department being a new feature of the exhibition drew a great many visitors, as did also the bee-tent, where manipulations were given by Mr. J. Martin, the Expert.

Mr. Lovell, the Judge, made the following awards :—

OPEN CLASSES.

Collection of Honey.—1st, J. Martin, Bishport ; 2nd, R. Hamlyn-Harris, Hambrook ; 3rd, J. Fenner, Henbury.

Appliances.—1st, E. J. Burtt, Gloucester.

1-*lb. Jar Extracted Honey.*—1st, J. Martin ; 2nd, J. Fenner ; 3rd, R. Hamlyn-Harris.

1-*lb. Section.*—1st, Mr. Higgs ; 2nd, J. Martin ; 3rd, Mrs. Bence ; h.c., H. Prewett.

Twelve 1-*lb. Jars Extracted Honey.*—1st, J. Martin ; 2nd, R. Hamlyn-Harris ; 3rd, J. D. Willcox.

Three 1-*lb. Sections.*—1st, Miss Dawe.

Twelve 1-*lb. Sections* (members only).—1st, Miss Dawe ; 2nd, W. Board ; 3rd, J. Fenner.

Twelve 1-*lb Jars.*—1st, J. D. Willcox ; 2nd, W. Board ; 3rd, C. A. Wewman.

Three Frames for Extracting.—1st, J. D. Willcox ; 2nd, J. Martin ; 3rd, J. Cox, Henbury.

Super.—1st, J. Fenner.

Six 1-*lb. Sections.*—1st, C. A. Wewman ; 2nd, W. H. Stokes ; 3rd, J. Martin.

Six 1-*lb. Jars.*—1st, T. Jones ; 2nd, R. Hamlyn-Harris ; 3rd, W. Board.

Three 1-*lb. Sections.*—1st, Mr. Higgs ; 2nd, W. Board ; 3rd, H. Prewett.

Beeswax.—1st, J. Fenner ; 2nd, S. J. Cox, Keynsham ; 3rd, J. D. Willcox.

Bee Flowers.—1st, J. Fenner ; 2nd, J. Martin.—*Communicated.*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

OVER-CROWDING.

[2576.] Our Parish Council being asked if we should like an expert in the technical education department, to give us a series of lectures, and demonstrate how bees may assist in paying their owners' house rent, the reply of our village statesmen was to the effect that although the presence of a *savant* would act like a gleam of sunshine here, we have already sufficient bees to meet our requirements. They also went on to say that, under any circumstances, unless the County Council is prepared to sanction the erection of extra hives in suitable localities only, we have no ambition to witness a struggle for existence between the swarms of children and swarms of bees—together with dogs, cats, and fowls—all of which, however satisfactory to their owners, often become an intolerable nuisance to the neighbours unless kept under proper control.

Farmers can tell pretty accurately how many sheep or oxen a given area will support, but although the subject is somewhat obscure as regards bees, there is no doubt that overcrowding is only to court famine and disease, even as it did in the days of the historic bee-keeper, the shepherd Aristæus, two thousand years ago, or as Dryden has rendered Virgil's lines :—

> Sad Aristæus from fair Tempe fled,
> His bees through famine and diseases dead.

Moreover, it appears unreasonable that we should demand outside aid, seeing that we take in the BEE JOURNAL, and possess your hand-book, which we compare with a manual which I have on my book-shelf, and which formed the bee keepers' *vade mecum* when England was yet a heathen country.

The soldiers who occupied the Roman camp near here doubtless would occasionally stroll down to our village in order to purchase honey for the mess, or as a present for the Colonel's wife and daughters, executing the commission in the Latin tongue ; and as this has always been a favourite locality for bees, it requires little stretch of the imagination to assume that in coming on such an errand a Roman officer would put the Fourth Georgic in his pocket, and seated in the garden of some rude forefather of the hamlet, who perchance

> With spreading limes had made a cool retreat,
> To shade good fellows from the summer's heat,

invite comment, as you do, on the best remedy for bee-stings, whether bees sleep, and so on.

Regarding the sleep of bees, Dryden, in translating the older manual, says :—

> When once in beds their weary limbs they steep,
> No buzzing sound disturbs their golden sleep.

You do not mention the subject, and, indeed, so long as they fill the sections, bee-masters, as a rule, are not likely to trouble their heads whether the labourers which they send into the fields get a good night's rest after their day's work or not. But whatever may have happened in the days when the earth was younger than it is now, and competition less keen, my bees, during these summer nights, take no rest at all ; and, even when the church clock proclaims the advent of another day, the hive is awake. The drones certainly seem to court repose, but theirs at best must be a troubled slumber, as the workers are constantly walking over their bodies ; whilst ever and anon what I take to be an inspector of works taps them with his truncheon, bidding to shake off dull sloth, and remember they are inmates of a hive during the honey flow.

The drones this year might fairly be allowed to eke out a portion of their brief existence in sleep, as, following your advice, we have so carefully eked out our hives that, much to my satisfaction, there has not been a swarm in the village, and the number of our stocks remains in *statu quo*.

As I write the time of harvest has arrived, but, whatever amount of honey I can call my own, I do not look on the hives as a buccaneer would look on a galleon. I only take what the bees do not require for themselves, particularly as my assistant, who is a shrewd fellow, declares that I should deserve the fate of the shepherd Aristæus if, because sugar is cheap and honey comparatively dear, I fed the wretched bees on unnatural food.

Of course, occasionally I have to feed weak stocks, but, as a rule, I give them honey from more prosperous hives. Once only, when a cask of sugar arrived as a present from Jamaica, I made it over to the bees, with fair results, and I told the donor subsequently that his gift had been the means of saving hundreds, if not thousands, of lives, leaving him to discover, if he thought proper, what kind of lives they were.

But even fortified with the BEE JOURNAL and your manual, it requires experience to enable any one to manipulate hives in comfort. When I began the science I sat as a disciple at the feet of an old fellow here who would never wear a veil because of the absurd figure he thought he cut in it, and following his example, I often got stung; but one fine day, coming upon him unawares sprawling in the most undignified manner beneath a gooseberry bush trying to ward off the furious attack of angry foes whose stores he had been robbing, I changed my tactics, and wore a veil henceforth, objecting to be stung, as Pickwick objected to being shot in a wheelbarrow, merely for the sake of appearance.

Now when I go forth to reap my harvest I carefully adjust not only veil but gloves, and as two pairs of eyes are required to manipulate the hives in comfort, I never stir without an assistant, who keeps an eye upon the tools and wields the smoker. After a few minutes' preparation all is ready; a hive is opened, the calico raised, and a puff of smoke so astonishes the bees that, before they have time to recover from their surprise, I have not only loosened the crate with my hive-breaker's jemmy, but safely deposited it in a wheelbarrow which stands by. In almost less time than it takes to write these lines the wheelbarrow is filled, and taken to the centre of a neighbouring thicket, where the crates are stowed away in an old oak chest reeking with some odour distasteful to the bees, and this inhospitable preparation for their reception makes them in such a hurry to be off that, seeing a gleam of sunlight above, they scramble to it and fly away, never to return.

Next morning, when the chest is opened, all is still. The wheelbarrow is brought into play again, and when the last of the crates is safely deposited in the honey-room, we exclaim, *finis coronat opus*, and raise the shout of harvest home! And what, it may be asked, do the bees think about it all? Well, although human sympathy hardly descends so far as to take the rights and wrongs of insects into consideration it is satisfactory that bee-keepers are able by the "modern system" to save their humble labourers from the sulphur-pit.—E. L., *Kingham, July*, 1896.

FOUL BROOD STATISTICS.

[2577.] I have been asked to gather statistics for the county of Surrey for the information of the County Council's Association, with a view of supporting the Foul Brood Bill. I should be greatly obliged, therefore, if bee-keepers in the county would kindly assist me by sending me any information as to (1) the names of parishes where foul brood is known to exist; (2) number of stocks affected; (3) number destroyed; (4) number still under treatment. — C. BRERETON, *Pulborough, Sussex, August 3.*

QUEEN RAISING.

[2578.]—On July 11 I removed a queen from a hive to start queen-raising. About fifty-six hours after I found four or five queen-cells started on one frame, and five or six on another, only one of these last, however, having a larva. Into this I transferred a young larva from a new hybrid queen, all my other bees being pure natives. This cell has yielded a hybrid queen. For experiment I also put larvæ into the untenanted queen cups on the same frame, but none of these were accepted.

On the 18th I swarmed another stock, and made nuclei on the 20th, at the same time giving the other sealed queen-cells (blacks) in Doolittle's protectors. Two cells were closely attached, but I believe I cut between without rupture. By the time I took out the remaining one of the two, however, the bees were at work, and the inmate was exposed for a large part of its surface. On went a patch of soft comb, and the protector insured the repair against injury. The queen duly hatched out, and to-day bears evidence of fertilisation; she is a fine queen. I enclose the cell. You will see that since the hatching of the queen the bees have got in and torn away at the patch, as in duty bound; they could not get in before.

I like the protector so much that I think I shall always use it in future. It is most easily made from a 3 in. square of wire-cloth. A lead pencil will bore the central hole; a little pressure with the fingers will give a conical shape. When the queen-cell is carefully inserted with its apex at the circular opening, and with sufficient comb at the base to take all the side pressure, the corners can be

gathered up; and a bit of fine wire, passed through the gathered corners and wound round, will serve to keep everything snug, and to hang the whole by from the top of a frame, any bit of burr will afford sufficient hold. The opposite combs can be hollowed a little with a knife to give the protector room. The advantages of the protector is simply everything if a cell is ruptured, and is very great if, through being at a distance from the apiary, the bee-keeper has to make up his nuclei and insert queen-cells at the same visit.—S. JORDAN, *Bristol, July* 31.

QUEEN-REARING.

FROM A "PERSONAL" POINT OF VIEW.

[2579.] In reply to Mr. Wm. Woodley (2568, p. 303), who puts some questions of a distinctly personal character to myself, I beg to say, breeders of queens who know their business use such means (of which there are many) as they find best to the end in view. The elementary nature of the queries referred to, coming as they do from one regarded as an advanced bee-keeper, is to my mind, highly suggestive of a want of knowledge of the subject, such as I, for one, did not expect from that quarter, especially as it compels me to advise Mr. W. to read some of the many text-books dealing with the subject, which will save him the trouble of writing, and me of answering, puerile, and rather inquisitive questions. As to the number of apiaries I happen to own, etc., surely this is a matter purely personal, and devoid of interest to general readers, save, perhaps, a few prone to inquisitiveness. For the satisfaction of the latter, however, permit me to say that I have more than one large apiary, and I devote a good deal of time to queen-rearing in places some nearly twenty miles apart. To go a little farther, my queens are raised in the counties of Surrey and Kent respectively. In the latter county the nearest village is nearly a mile away, and practically the whole of the bees in the place are under my personal supervision.

I may, with our editors' permission, deal with the questions raised *in extenso* later on, when time will probably be of less importance to me than now, but, without wishing to appear discourteous, I cannot rid myself of the impression that, as already said, Mr. Woodley's remarks tend in the direction of distinct personalities.

Such being the case, I am prompted to submit that the rather inquisitorial questions on page 303 refer so entirely to matters which I regard as my own private business, as to compel me to decline being catechised thereon. Moreover, the amusing reference in our friend's letter to a certain organ, useful and ornamental enough in its proper place, and fulfilling its proper functions, but credited with proclivities the reverse of either at times —sorely tempts me to use the same facial adornment in pointing a moral. I forbear, however, but must draw the line somewhere, and content myself by saying that unwarrantable intrusion into one's private business is, I consider, always objectionable, and even at the risk of offending our friend, I consider the matter dealt with above is a case in point.—HENRY W. BRICE, *Thornton Heath, August* 1.

DEALING WITH FOUL BROOD,

AND SOME GENERAL BEE NOTES.

[2580.] I felt sure, if I appealed to your readers in this matter, I should get both help and sympathy, and I now thank South Devon Enthusiast (2553, p. 273) for his kind remarks, and shall—if spared next spring—strive to be awake to my position. I have found that everything may appear all right in the autumn, but in spring, when we want "steam up," then the leak begins to make itself felt. I have treated one stock since writing a month ago—my best (I should want a lot of money for that queen now). I became suspicious by finding brood in the super. You may ask—"Why?" Well, on making my first acquaintance with foul brood, I found the queen seeking fields and pastures new by depositing eggs in cells previously used only as store-cells. She did this because the old brood combs were filled with dead and rotting brood. I at once got the bees off the combs and into an old box while the hive was being treated, as I have often seen advised in our "B. B. J.," from whence I get my only "know." After disinfecting as thoroughly as I knew how, I painted it over inside and out with a solution of Calvert's No. 5 carbolic acid, as directed. Then, having made a fire in the garden with dry bushes, I scorched the whole inside and out in the clear blaze for a few moments, another scrubbing with soap, a final rinse, and a coat of paint finished the job. It is now furnished with full sheets of foundation and a frame of healthy honey from my out-apiary, and the bees are now, I think, cured and comfortable in a healthy home. No further inspections since as my hands are too full elsewhere. I have advised my bee-keeping neighbours to look well to their stocks and use naphthaline, often putting it in their hives for them. I pointed out a diseased hive belonging to a friend about a mile from here, and advised remedies, but three weeks later I found he had not done as I suggested, but after destroying the bees (a weak lot) left the hive exposed at one corner of his garden. The bees could easily get in and out to carry disease to his own or to other stocks. I have had some experience with vagrant swarms. Last year I took the honey from four located on trees and buildings, but I invariably find it difficult to capture the bees, on account of the surroundings. Only in one case could I have got them, and then it came on to rain, so they

had to be left, and I never went again after the poor bees, which perished.

I wonder if Mr. Woodley still uses wide top-bars and likes them? I have used them 1⅛ in. wide, ⅛ in. thick, "lugged" at ends to take ⅛ in. "W. B. C." ends, and have never been troubled with brace-combs or spoiled sections since. I have become quite an advocate of foundations with drone-cells for sections and shallow frames. I find my bees always build drone-comb for supers directly the combs are extended below the foundation given them. The season here, which opened so grandly, has been far too dry, and nothing of any account has been done since the middle of June.—EAST COASTER, *August* 3.

THE HEDGEHOG AND THE BEE.

[2581.] This evening (6.30 p.m.) I saw a baby hedgehog disporting himself on my lawn. Length, about 3½ in. from the tip of his nose to where his tail ought to be. Of course the children were all called to see him, and, of course, they wanted to feed him. I thought of a dead bee; we offered him one, which he immediately took into his mouth, and chewed up, but deposited the bitten carcass on the grass; then I bethought me of a little honey, and we offered him some on a leaf; he ate it while I held the leaf in my hand, and finally bit at and sucked the leaf voraciously; he is, as I write, walking off, evidently well content. —R. S. ROUTH, *Longstock Vicarage, Stockbridge, Hants, August* 1.

Queries and Replies.

[1524.] *Unworkable Hives.*—I have four hives in fairly good condition and with plenty of bees in them, but the frames are so old and rotten and all the combs are so built one into the other that I can never examine them. I tried to transfer them into a new hive in the spring, but the frames came to pieces when I touched them. Two of the colonies have done fairly well in the sections, but the other two have done nothing at all. I put all the section-racks on very carefully and covered up warmly. 1. Are there no means by which I can move bees, even if I leave frames, into a new hive? I cannot examine frames to see what is wrong, and it is so unsatisfactory keeping bees in this condition. The hives are all fitted with standard frames. 2. Should I remove sections now or leave them till August? There is very little honey coming in here now. I thought perhaps I should let the bees store it in the frames for the winter. —M. E. B., *Warwick.*

REPLY.—1. The combs could, no doubt, be removed, and, after cutting out, be fitted properly into new frames, but it would require an expert or some one accustomed to bees to get through such an operation successfully. The bees, however, might be allowed to transfer themselves into a new hive placed below, but it could not be done till April or May next. We should remove sections at once, and let all honey gathered late go into the brood-nest for the bees' use.

[1525.] *Naphthol-Beta Solution and Methylated Spirit.—Hiving Swarms.*—1. Referring to your reply to query 1502 (p. 276) regarding transferring bees, I would ask, Why should the combs of brood be given to other stocks to hatch out? Why could not the transferred bees have their own combs of brood to hatch out, instead of foundation only being given them? 2. In the "Guide Book" (p. 159) pure methylated spirit is recommended to be used for naphthol-beta solution; but my chemist tells me there is only one kind of methylated spirit sold—*i.e.*, a solution with 20 per cent. of methyl, which makes it very "smelly"; it used to be only 10 per cent. He thinks you mean rectified spirits, or, that is, pure alcohol. Will you please inform me if that is so? It comes expensive. 3. In hiving a swarm into "W. B. C." hive, should I block up both body-box and outer cover? 4. When using six frames for the swarm the bees can get up outside the division-boards, owing to greater width of door-recess in floor. Also, with body-box raised, they get through under the divisions. How is this remedied?—GEORGE M. SAUNDERS, *Keswick, July* 18.

REPLY.—1. The old and odd-sized frames of comb were recommended to be placed (temporarily, of course) in or above brood-chambers of other stocks—until brood had hatched out—in order that the new hives might be supplied with new straight combs built on full sheets of foundation. 2. If instructions given in "Guide Book" are carefully attended to the author holds himself responsible for the rest. We may say, however, that in former editions pure alcohol—*i.e.*, rectified spirits of wine—was named for the purpose, and it was only in consequence of the great difficulty in obtaining the latter that the change was made. No evil results, however, need be feared. 3. Yes, if swarm is a very large one, otherwise the outer case only need be raised. 4. If bees—after contracting to six frames—show signs of clustering in the unoccupied portion of the hive for want of room, the division-board will, of course, need moving; but this is all the "remedy" required.

[1526]. *Bees in Greenhouse.*—I have a lean-to greenhouse, facing south, with a stream of water running in front, about 3 ft. from the house. I thought of arranging the hives along the inside of the greenhouse, with outlets, as in an ordinary house apiary. 1. Do you think the bees would do as well as in a house apiary? 2. Would the stream be too close to the bees?—F. W. OSMAN, *Wells, Somerset, July 30th.*

REPLY.—1. If greenhouse referred to is

heated in winter, it would have a bad effect on the bees, so far as militating against their "rest period," and causing them to fly abroad, and get lost through cold outside. Otherwise, it would, no doubt, answer as bee-house. 2. Not unless exposed to high winds, which might cause the bees to be blown into the water and drowned.

UTILISING EMPTY COMBS.

As I hear of quite a loss of bees in certain localities, and, thinking that perhaps not all who read the pages of the *American Bee-keeper* realise the value of empty combs, I am led to give the results of my experiments with them, and offer a few suggestions which may be of benefit to some who are just starting bee-keeping, and also to those who have empty combs from colonies which have died in the past winter. Those who have wintered their bees well, and are experienced along apicultural lines, may also derive benefit from what I have to say. When I first began keeping bees I was short of combs, and as my bees would persist in building more or less drone-comb, I was often obliged to work colonies for comb-honey with as few as six "Gallup" frames in a hive. In those days it was thought that a hive should contain at least 2,000 cubic inches in the brood department in order to meet with anything like success, but for years my bees were increasing so fast that I did not average seven of these frames to a hive, so short of straight worker-combs was I (and I would use no other), which is only about one-half the number needed to fill a hive of 2,000 cubic inches. In this way I was compelled to lay the foundation of what is known as the contracting system, and the success attained by the use of so few combs led me to give the matter in print, styling it as a successful plan. As I wished to make the most of my new swarms, they were allowed to build comb in the brood-department of each hive till the yield of honey came on plentifully, at which time the sections were put on, after contracting the bees (by means of dummies) to as many combs as they had completed up to this time. Thus in 1874-5 I obtained an average of over 100 lbs. of honey per colony each year. Full frames of drone-comb were taken away as fast as built, before any brood had matured in them; and in this way I obtained starters for using in the sections, filling some entirely full, to be placed in the centre of the surplus department as "bait" sections, thus securing early work therein. Where frames were partly filled with worker and drone comb, I cut out the latter and fitted worker-comb from another frame into the vacant place left. In this way every vacant frame was filled with worker-comb. Now, however, in these days of comb-foundation, it is doubtful whether it pays to do much of this patching of combs. Nevertheless, to melt up full combs, as some recommend, and buy foundation to fit in frames, is to my mind very poor policy. I never could see why such advice was given by those who had the name of being practical, level-headed apiarists. When swarms came off near to—or at the commencement of — the main honey-flow, they were hived on five frames only and when these were filled with worker-comb (which would be as a rule) I spread them apart, putting in each alternate space an empty comb, which I had made up by patching, and thus completing the hive full of comb just when I wished it the most. When swarms were too large to work profitably in building so few combs—as most of them would be—sections were put on, so that the bees could be at work in these, thus taking the pressure of honey off the brood apartment. The bees were by these means more likely to build all worker-comb, as well as to make to best use of their labours. In this experiment, I found that I could secure one-third more honey from a swarm treated thus than from one building the whole nine frames full of comb during the height of the honey harvest; while by filling the hive full of comb at the time of hiving, I obtained nearly double the amount gathered when using a full hive of frames having only starters in them. By getting these combs filled with honey—as I sometimes had them—I could secure far more honey in the sections than by any other plan. If the swarm contains a good prolific queen (and no other should be used in such cases) nearly all the honey in these combs would be removed into the sections in two weeks, as well as that gathered from the fields, and the cells previously occupied with honey nicely filled with brood.

There is nothing of more value in the apiary than good, straight, worker-combs, except good prolific queens, for these two may truly be called the foundation-stones of successful apiculture. Such combs should be carefully looked after when away from the bees, the larvæ of the wax-moth not being allowed to spoil them, as is so often the case. Some have an idea that foundation is preferable to full frames of comb. This is, I think, a mistake, for the bees must consume time in working out the foundation to full combs, to say nothing of the expense of buying it, or the work of putting it into the frames. Foundation is good in its place, and I use a good deal of it, but I have it all fitted in frames and drawn into combs by the bees; or otherwise have frames filled with nice worker-combs by the bees building the same. I see no sense in melting it up, or allowing the moth to consume it. I was pained not long ago to see hundreds of moth-eaten combs on the premises of a prominent bee-keeper, who had a few years before purchased a foundation machine. These combs had been looked after with care in years gone by; were built in the frames as straight and true as a board, and, to my mind, before the moths had damaged them, were worth double

the same amount of comb-foundation. In bee-keeping, as well as in any other business, prosperity comes only in husbanding what you already have, and being careful of the outgo; especially is this the case where the best of honey brings less than one-half the price it did a few years ago. One of the sheet-anchors of bee-keeping is plenty of straight worker-combs; and if you have such, use them in place of having the bees build more, or of buying foundation.—G. M. DOOLITTLE, in *American Bee-keeper*.

INSECTS THAT BRING LUCK.

Among the countless superstitions once so firmly believed in by a former generation, those relating to the insect world are among the most curious and interesting. Take, for example, the notion that bees from their domestic character and pecuniary value, are interested in the affairs of the family to whom they belong.

In some districts this belief was so much an article of faith that, on the death of the master or mistress of the house, the melancholy event was made known to the little community with due ceremony. The common custom was to visit the hives, tap three times with the house key, and say, "Bees, your master is dead." A bit of crape was then put on each hive in order that the bees might share in the family mourning. If this ceremony were omitted it was believed the bees would die.

In other districts some member of the family lifted up each hive as the funeral procession left the house, from a notion that if this were not done the bees would desert the hive and seek other quarters.

Many other curious notions were associated with the busy little insects. For example, it was considered "an honour and a privilege" for strange bees to visit one's garden; but when a wild bee entered a house, it was regarded as a death warning. This belief seems akin to the old Roman idea that it was ominous for bees to settle on the top of a house or on a temple.

Bee Shows to Come.

August 7.—At Strathpeffer, N.B. Strathpeffer and District Horticultural and Bee-keeping Society. Ninth annual show, which includes bees, hives, and honey. Schedules of prizes from J. H. Bisset, Schoolhouse, Fodderty, Dingwall.

August 13.—At Goole, in connection with the Agricultural and Horticultural Show. Bees and Honey. Entries close August 8. J. Luddington and H. S. White, secs., Lindum House, Goole.

August 15.—South of Scotland B.K.A. Annual Show at Dumfries. "Burns Centenary" classes open to all-comers. Schedules now ready. Entries close August 8. James Kerr, Secretary, Douglas-terrace, Dumfries.

August 19.—At Court Gardens, Marlow. Show of bees, honey, hives, and appliances in connection with the Marlow Horticultural Society Show. Seven classes out of ten are open to all. Liberal prizes. For schedules apply to Arthur D. Cripps, hon. sec., Marlow. Entries close August 15.

August 19 and 20.—In the Quarry, Shrewsbury. Honey Fair and Show of Honey, Hives, and Bee Appliances, of the Shropshire B.K.A., in connection with the Shropshire Horticultural Society's great Fête. Over £35 in prizes. Schedules, &c., from T. Whittingham, Upton Magna, Shrewsbury. Entries closed.

August 22, at Royton, Lancashire.—The Royton Agricultural Society, in connection with the Manchester and District Bee-keepers' Association. Entries close August 15. Schedules from A. S. Ormerod, 37, Rochdale-road, Royton, Lancs.

September 2 and 3.—At Birkenhead. In connection with the Wirral and Birkenhead Agricultural Society. Show of hives and honey. Two classes for twelve sections and two for twelve jars extracted honey; one of each being open to all. Open class for best frame-hive. Liberal prizes. Entries close August 19. Schedules from Arthur H. Edwardson, 28, Hamilton-street, Birkenhead. The bee-tent of the L. and C.B.K.A. will be on the ground and lectures given each day.

September 8.—At Moorgreen. Notts B.K.A., in connection with the Greasley, Selston, and Eastwood Agricultural Society. Open class for a 1 lb. bottle of honey. Schedules ready. Apply Geo. Hayes, Mona-st., Beeston, Notts. Entries close August 29.

September 9 and 10.—At Derby. In connection with the annual show of the Derbyshire Agricultural Society. Fifteenth Annual Show of the D.B.K.A. as above. Liberal prizes for bees, hives, and honey. Six of the eighteen classes are open to all comers. Schedules from F. Walker, Cattle Market, Derby.

September 16.—Wotton-under-Edge B.K.A. Annual Show of Honey. In the Church Mill. Schedules from E. W. Read, Hon. Sec., Wotton-under-Edge.

September 26.—At the Corn Exchange, Jedburgh. Annual show of Roxburghshire B.K.A. Twenty-eight classes, all open to members free of entry-fee. Entries close September 22. Thos. Clark, secretary, Pleasants Schoolhouse, Jedburgh, N.B.

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

MAUD MARSHALL (Epsom).—*Transferring Bees to New Hive.*—If the bees are at present on standard frames, there is no need at all to have fresh combs built in the new hive. The combs they are now on—being only one year old—may be lifted into the new hive whenever convenient and placed on the old stand.

"HUMBER."—*Syrup Making.*—For making good syrup food for bees' use during the winter, we strongly recommend the recipe as given on p. 163 of "Guide Book." Some bee-keepers simply mix the sugar with hot water, stirring till dissolved. Our preference is for the first-named plan. As for your proposal to "stir 2 cwt. of sugar into the proper quantity of cold water" for winter stores, our advice is, don't! Your other query is dealt with in "Hints" (p. 311).

A WORKING MAN (Small Heath).—*Starting Bee-keeping.*—If you will point out such portions of the book referred to as are not clear to your understanding, we will endeavour to make it plain. You cannot learn how to keep bees by reading only the BEE JOURNAL.

HELEN C. BROOK (Withington).—*Bees at a Bazaar.*—In view of the fact that the paragraph referred to was sent to us as a "Press cutting," and not by either of the gentlemen whose names appear therein, we would suggest—as the most proper course—that complaint be made to the local paper wherein the paragraph appeared, and whose reporter may be the person at fault. It would be both inconsiderate and obviously unfair to make the matter so sharply personal and one-sided as your version renders it, without obtaining particulars on the "other side" and making full inquiry as to the facts—which would be very inconvenient after the lapse of so long a time. We will, however, be very pleased to give our correspondent full credit for the share she took in promoting the bee exhibition, which secured such excellent results, if that will suffice for her purpose.

L. DORAN (Co. Louth).—Comb received is evidently from a hive in which swarm is headed by an unfertilised queen. This is proved by the drone brood in worker cells. There is no disease as supposed.

C. M. COLLINS (Wellingborough).—*Starting Bee-keeping.*—So far as suitable books for beginners, there is the "Bee-keeper's Guide Book"—which covers the whole ground of bee-keeping—and "Modern Bee-keeping," a handbook for cottagers. The first named costs 1s. 8d., and the latter 7d., post free.

H. S. (Surrey).—To establish any claim to the title of "A would-be Successful Bee-keeper" (as used by yourself), it is absolutely essential for you to obtain a guide book of some sort. The questions asked betray such entire ignorance of the most elementary branches of bee-craft, that it is impossible for you to get on without some book which gives full details of the work necessary for carrying out the operations inquired about.

R. T. (Burton-on-Trent).—*Price of Hives.*—In view of the admirable hives for cottagers' use—shown at the "Royal" and other shows—to be had at a cost of 10s. 6d., it is absurd for any one justly claiming to be a competent authority to say that it is not possible to obtain a hive with supers under 15s. or 16s.

W. R. LUCA (Liberton).—*Queen cast Out.*—There is nothing in queen to indicate cause of death. Nor can any blame be attached to the person from whom queen was bought. It is a curious fact that foreign queens seem more liable to such cases of "unaccountable death" than natives; but it is so.

E. COTTINGHAM (Horncastle).—Comb contains nothing worse than wholesome pollen—no trace of disease at all.

J. C. H. (Wellington.)—*Honey Samples.*—No. 1 is a very good honey indeed. No. 2 is fair, but not nearly so good as No. 1. The granulated sample (No. 3) is also good, but too coarse in grain to win in a close competition.

Special Prepaid Advertisements.

Situations, Publications, Bee Plants, &c.—Up to Twelve words, Sixpence; for every additional Three words or under, One Penny.

HEALTHY DRIVEN BEES for SALE, 1s. 3d. per lb. F. GAY, Edmondsham, Cranborne, Salisbury. M 90

PURE YOUNG CARNIOLANS, 7s. 6d.; also English Queens, 2s. 6d. BLACKLOCKS, Sycamores, Lydd. M 92

QUEENS, tested Natives, 3s. post free. SALMON, Expert, Lower Tuffley, Gloucester.

EXTRACTOR, "Little Wonder," perfect, sent return for 5s. GAMBRILL, Bagshot-road, Ascot. M 93

HEALTHY DRIVEN BEES, 1s. 6d. 5-lb. lots with Queens; also single Stocks with '96 Queens, 2s. 6d. each. E. LONG, Fulbourn, Cambs. M 91

GOOD Healthy DRIVEN BEES, at 1s. 3d. lb., boxes returnable. Also young Fertile Queens at 1s. 6d. each. Post free. R. BROWN, Flora Apiary, Somersham, Hunts. M 94

SCREW-TOP BOTTLES, 16 oz., 2s. doz.; 1896 Queens, 2s. 6d.; Gilt Section Bands, 1s. 100; Clover and Heather Honey now booking. WOOD & TAYLOR, Hathersage. M 81

Editorial, Notices, &c.

LIGHT VERSUS DARK HONEY.

The peculiarity of the present honey season affords an opportune occasion for ventilating a grievance which presses unduly hard upon a large class of bee-keepers. We refer to the general, and no doubt justifiable, preference for honey of light—or, to define it more clearly, pale yellow — colour, while of clear, bright transparency when in liquid condition. To urge that honey of this class is not generally preferred to that dark in colour, dull, and lacking altogether in clearness, is to shut one's eyes against known facts; but we feel just as equally certain that any attempt to educate consumers to an opposite view will be utterly futile. If light honey was known to be bad in flavour, and that appearance was its only recommendation, the case would be different; but this is not so. No one attempts to deny that the best British honey is gathered from white clover or from sainfoin; and both these plants yield nectar of pale-yellow colour.

In going thus far, we by no means would have it inferred that all pale bright is of high or even moderate excellence. Some of the most attractive-looking honeys we ever saw have been so poor in flavour as to be promptly voted "out" in competition by ourselves and others in honey judging at shows. But, having said this much in favour of colour and appearance, we hasten to add that no man with any sense of taste or appreciation of flavour can deny that some honeys, unmistakably dark in the accepted sense, are most excellent in flavour, and in other points too. We go further, and say that if it came to choosing between two samples, one good and the other bad in flavour, it would be as absurd for a judge to award the prize for colour only where the other was so superior in flavour, as it would be for a tradesman to buy for appearance only, regardless of how the article sold would please the palate of his customer.

We are here dealing with the subject from the judges' and the tradesman's point of view, because of the following communication just received, which explains itself. The writer dates from the county of Berkshire, and says:—

DEAR SIRS,—I beg to inclose bottles of extracted honey from this district, as requested by our secretary, Mr. A. D. Woodley, who is writing you on the subject. This is done at the request of a large number of bee-keepers, who are supporters of the ASSOCIATION and readers of the JOURNAL and *Record*. Our complaint is that we are shut out of the shows and markets by judges and tradesmen respectively always so strongly favouring or preferring light-coloured honey. We can only have that which is gathered by the bees, and in this neighbourhood it is always dark-coloured, *but pure honey*. Feeling, therefore, that an injustice is done us, we think the time has now come when colour should not be allowed to stand in the way, but that something should be done for our benefit; and we appeal to you for help in the matter. The honey enclosed is gathered from furze, green broom, fruit, bramble, flowering shrubs of every description, chestnut, willow-weed, bell-heather, and "ling." Thanking you in anticipation of your help in the matter, I am, Sir, yours faithfully, H. ATTFIELD.

We are so completely in accord with the views expressed in the above, so far as separate classes at shows for dark honey, that every help this journal can afford in that direction will be heartily accorded. At the same time—and fairness compels us to say this—the honey sent is of such poor quality that its value as a table honey can never be regarded favourably by either judges or tradesmen. Some dark honeys are good, but those sent are poor in flavour, and, this being so, the produce of such a district is not suitable for bee-keeping.

CORNWALL BEE-KEEPERS' ASSOCIATION.

We are pleased to find that this association has been re-started, and, being now placed on a firm basis, we hope it may have a bright future of usefulness before it. The president of the association is the Honourable John Boscawen, and the leading county nobility are vice-presidents or patrons. There is a strong committee of twenty-four members, two of whom are appointed by the County Council. Mr. R. J. Polwhele has consented to act as hon. sec. and treasurer, and it was announced that sixty had already joined as members. The association was started at the St. Ives show of the Royal Cornwall Agricultural Society, and there have been two meetings held since at Truro. At the last meeting it was announced that the County Council had made a grant of £50 to the association for technical instruction in bee-

keeping for the current year. A number of district secretaries were appointed and the rules presented by the sub-committee were approved and adopted. It was decided to admit cottagers as members of the association, on the recommendation of district secretaries, at 1s. a year. Great credit is due to Mr. H. R. Baker, who took the initiative in re-starting the association, and who has so successfully carried out the work of re-organisation.

IRISH BEE-KEEPERS' ASSOCIATION.

The Committee met on the 6th inst. Mr. O'Brien in the chair. Certificates of Competency to Instruct Children in Bee-keeping were granted to the thirteen National School Teachers who passed the examination held on the 1st inst. at the Apiary, Model Farm, Glasnevin. It was decided to continue giving instruction in bee-keeping at this Apiary during August and September on Saturdays. The time for instruction will necessarily be subjected to variation, but will be fixed a few days before each Saturday, and can be ascertained by applying to E. B. Drought, Esq., Blackrock, Dublin. It was resolved to offer two prizes for honey at the Kerry Agricultural Society's Show on October 14 in a class to be open only to members of the Irish Bee-keepers' Association without entry fee.—H. CHENEVIX, Hon. Sec., 15, *Morehampton-road, Dublin.*

HONEY IMPORTS.

The total value of honey imported into the United Kingdom during the month of July, 1896, was £6,286.—*From a return furnished to the* BRITISH BEE JOURNAL and *Record by the Statistical Office, H.M. Customs*, August 7, 1896.

LEICESTERSHIRE B.K.A.

The above Association held its annual exhibition of honey in connection with the Leicester Horticultural Society, at the Abbey Park, Leicester, on August 4. It is very gratifying to note the increasing interest taken in this section of the Show. The entries were the largest yet known, numbering upwards of eighty. The quality also was very fine, there being an evenness in the whole of the exhibits which made the competition very keen. A word of praise is certainly due to exhibitors in the "Honey Trophy Class" for the very tasteful way in which they were staged.

Mr. Scattergood, jun., of Stapleford, Notts, officiated as judge, and made the following awards :—

Twelve 1-*lb. Sections.*—1st, Miss A. Throsby, Leicester; 2nd, W. P. Meadows, Syston; 3rd, J. Waterfield, Kibworth.

Twelve 1-*lb. Jars Extracted Honey.*—1st, J. Waterfield; 2nd, W. A. Godby, Melton Mowbray; 3rd, W. P. Meadows; 4th, Miss S. J. Cooper, Leicester; h.c., A. Parry, Melton Mowbray.

Display of Honey.—1st, W. P. Meadows; 2nd, J. Waterfield and J. Cooper (equal).

Twelve 1-*lb. Bottles Granulated Honey.*—1st, J. Cooper, Leicester; 2nd, W. P. Meadows, Syston.

Extra prizes for members of L.B.K.A. (non-prize-winners at previous shows) :—

Six 1-*lb. Jars Extracted Honey.*—1st, Mrs. Walker, Glen Hall; 2nd, J. C. Thompson, Leicester.

Six 1-*lb. Sections.*—1st, Mrs. Walker; 2nd, G. Brown, Glen Magna.

Mr. W. P. Meadows' prize, open to all :—*Single* 1-*lb. Jar Extracted Honey* (all exhibits given by owners and presented to the Children's Hospital, Leicester).—1st, J. Waterfield. —*Communicated.*

NORTHAMPTONSHIRE B.K.A.

The annual show of the Northants B.K.A. was held at Delapre Park, Northants, in connection with the Horticultural Exhibition, on August 3 and 4. The entries numbered 192, nearly all being staged. Mr. F. J. Cribb, of Retford, who officiated as judge, considered the exhibits made a very creditable display for a small association, both in quantity and quality. The awards were as follows :—

Twelve 1-*lb. Sections.*—1st, C. Cox, Brampton; 2nd, J. R. Truss, Ufford Heath; 3rd, J. Pollard, Bucks; 4th, W. Winterton, Wellingborough.

Twelve 1-*lb. Jars Extracted Honey.*—1st, W. Litchfield, Weedon; 2nd, C. Wells, Oxendon; 3rd, John B. Bultin, Ashby St. Ledgers; 4th, Lewis Jordan, Holdenby; h.c., C. Cox.

Six 1-*lb. Jars Granulated Honey.*—1st, W. Winterton; 2nd, C. Cox; 3rd, John Perry, Banbury; h.c., J. B. Bultin.

Honey Trophy (*not over* 48 *lb.*).—1st, R. Hefford, Boughton; 2nd, E. Brice, Dallington; 3rd, C. Cox; 4th, Mrs. Cox.

Beeswax.—1st, C. Wells; 2nd, A. Brayshaw, Brixworth; 3rd, W. Bazeley, Northampton; 4th, J. S. Partridge, Wollaston; h.c., George Page, Holcot.

Six 1-*lb. Sections* (*non prize-winners only*).—"F" 1st, W. Winterton.

Six 1-*lb. Jars Extracted Honey.*—1st, G. Dunkley, Brampton; 2nd, Rev. J. W. Scamell, Welford; 3rd, W. T. Reynolds, Overstone; 4th, J. Porter, Welford.

Super (*glass or wood*)—3rd, G. Dunkley.

SPECIAL PRIZES OPEN TO ALL.

Class 1.—1-*lb. Jar Extracted Honey.*—1st, Mrs. Cox; 2nd, A. Hamer, Llanarthney; 3rd, C. Cox; 4th, Wm. Loveday, Hatfield Heath, Essex; 5th, Rd. Dodd, Tarporley, Cheshire.

Class 2.—1-*lb. Jar Extracted Honey.*—1st, Wm. Loveday; 2nd, C. Cox; 3rd, F. H. Brenes, Brentwood; 4th, T. Richardson, Wolverton.

Class 3.—*Beeswax.*—1st. Wm. Loveday; 2nd, A. Brayshaw; 3rd, Mrs. Cox.

Class 4.—*Single* 1-*lb. Section.*—1st, C. Cox; 2nd, A. Hamer; 3rd, N. Cox; com., J. Pollard.

Class 5.—*Single* 1-*lb. Section.*—1st. M. Cox; 2nd, C. Cox; 3rd, N. Cox; 4th, Mrs. Cox.

ROBT. HEFFORD, hon. sec. N.B.K.A.

SHOW AT CHESTER.

The first exhibition and fete of the newly-formed Chester Horticultural Society was held on the 5th and 6th inst. on the Roodee, so well known as the historic race-course of the ancient city. Judging by the lines on which the show was managed, it would appear as if intended to rival the great annual festival held at Shrewsbury in the adjoining county of Shropshire. However this may be the exhibition of last week, being favoured with beautiful weather, was a substantial success, and owing mainly to the active exertions of Mr. W. Little, of Chester, there was added to the many and varied attractions a bee and honey department.

Of this it may be said the tent provided was full to overflowing, seeing that many of the hives and bee-goods had to be accommodated outside. The entries were very good for a first show, numbering eighty-nine, including four very large collections of bee-appliances, for which prizes of £4 and £3 were offered. In the honey classes some very fine produce (in both sections and jars) was staged, along with what was (for Cheshire) an exceptional quantity of darker-coloured honey.

Taken altogether, however, it was agreed that the success of this section of the show was ensured for the future, as was that of the exhibition generally.

Mr. W. Broughton Carr and the Rev. J. F. Buckle judged the bee and honey exhibits, the former gentleman also conducting an examination of candidates for the third-class experts' certificates of the B.B.K.A.

Dr. B. E. Jones lectured to good audiences during both days in the bee-tent of the L. and C.B.K.A., of which Association he is Hon. Secretary.

AWARDS.

Collection of Appliances.—Equal 1st, Messrs. Jas. Lee & Son, London, and W. P. Meadows, Syston; highly commended, T. B. Blow, Welwyn, and George Rose, Liverpool and Preston.

HONEY (OPEN CLASSES).

Twelve 1-*lb. Sections.*—1st, J. Stone, Cubley; 2nd, Wm. Woodley, Beedon; 3rd, W. P. Meadows.

Twelve 1-*lb. Jars Extracted Honey.*—1st, Wm. Woodley; 2nd, W. P. Meadows; 3rd, Rev. T. J. Evans, Hargrave Vicarage.

Two Shallow Frames for Extracting.—1st, J. Shelton; 2nd, W. P. Meadows; 3rd, J. Cannah, Murford.

MEMBERS ONLY.

Twelve 1-*lb. Sections.*—1st, Rev. T. J. Evans; 2nd, R. Dodd; 3rd, F. Dutton.

Twelve 1-*lb. Jars Extracted Honey.*—1st, O. Roberts; 2nd, W. Forrester; 3rd, Rev. T. J. Evans.

HELMSLEY AND DISTRICT B.K.A. (YORKS.)

The above recently-formed association held its first annual show of honey, &c., on Thursday, August 6, in conjunction with the Ryedale Agricultural Society's Show in Duncombe Park, the beautiful seat of Earl Feversham. The tent in which the honey was staged was nicely decorated with cut flowers, the staging and arrangements being efficiently carried out by Mr. Robt. Ness, the Hon. Sec.

Mr. P. Scattergood, jun., of Stapleford, Notts, officiated as judge. In his remarks in the bee-tent he congratulated the Association on its first venture.

The awards were as follows:—

Twelve 1-*lb. Sections.*—Equal 1st, Mrs. Kirk and Miss Kirk, Stillington, York; 3rd, W. Baldwin, Helmsley.

Twelve 1-*lb. Jars Extracted Honey.*—1st, Mrs. Kirk; 2nd. R. Ness, Sproxton; 3rd, A. and J. Boyes, Helmsley.

Six 1-*lb. Sections.*—1st, Mrs. Kirk; 2nd, W. Russell, Helmsley; 3rd, R. Ness.

Six 1-*lb. Jars Extracted Honey.*—Equal 1st, Mrs. Kirk and R. Ness; 3rd, Wm. Peirson.

Super of Comb Honey.—1st, W. Baldwin.

Beeswax.—1st, Mrs. Kirk; 2nd, W. Dunning, Hawnby; 3rd, R. Ness.

Glass Super of Comb Honey.—1st, Mrs. Kirk.

Six 1-*lb. Sections.*—1st, Mrs. Kirk; 2nd, W. Dunning; 3rd, W. Baldwin.

Six 1-*lb. Jars Extracted Honey.*—1st, Mrs. Kirk; 2nd, J. Shields, Harome; 3rd, W. Peirson.—*Communicated.*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

GUIDE BOOKS ON BEES.

THE VALUE OF ILLUSTRATIONS.

[2582.] I think you have occasion to be more than satisfied with the fourteenth edition of your "Guide Book." The photographic

illustrations are, to my mind, a great addition to its usefulness. I hope you will allow me space to give an instance of this :—A man—formerly a railway engine-driver—having retired, has begun bee-keeping. He was the possessor of some bees in an old skep, and, wishing to have them transferred to a frame-hive which he had previously made, he consulted me some weeks ago. I then assisted in fitting up his frame-hive with sheets of foundation, and placing it below the skep on the same site. I endeavoured at the same time to explain to him how he must, in a fortnight's time, lift up the skep and endeavour to find out if the queen was laying in the frame-hive below. However, he had not the courage to do this, so I said I would help him to *drive* the bees from the old skep into a new one he had, and we would then throw them down on to a board placed in front of the entrance to his frame-hive. I had your book, and, in order to help him in understanding what the process was, I showed him the illustrations on pages 22, 25, and 103. He said little at the time, but seemed much interested. However, a few days later I went over to help him, as promised, when, to my surprise, I learned that he had done it himself with the aid of a small boy, "and," said he, "the bees ran into the frame-hive like sheep." It was the illustrations, he declared, which enabled him to accomplish the work so successfully; and I am sure a small book with these illustrations—and perhaps a few more added—would help many bee-keepers, especially with a word or two of title explanatory of the operation printed below, as in the new edition of your book. The man has already got excluder zinc on top of frames, and is highly delighted to think that he can in three weeks remove the skep, and is looking forward to a good harvest of honey from the latter when taken off. I fear, however, that he may be disappointed, as I suspect there is more pollen than honey in the skep, but the hive is heavy. I trust you will consider this of sufficient interest to readers to give it space in your journal.—FREDERIC MCCONNEL, *Carlisle, August* 1.

[We not only give insertion to our correspondent's communication, but are very pleased to find that our own impression of the usefulness of such illustrations in making bee-work more easily understood is so fully confirmed as his letter shows.—EDS.]

A WARNING.

[2583.] I trust you will allow me space to warn readers of B.B.J. against risk of serious trouble after the honey flow has stopped, as may be seen by what follows :—I had been removing my surplus during the week and previous weeks, and had left my extractor, cappings, strainer, dishes, &c., all wet with honey, together with the jars I had used for bottling, exposed in my work-room. This was its condition at six a.m. on Saturday the 1st inst., when I left it with the window wide open, with injunctions for others to shut at eight o'clock before the bees began flying for the day. But the others forgot, and on going to my room at mid-day I found it *full* of bees busily engaged "cleaning up" the loose honey for me. When they had got all they could in this line, they flew round the house in a particularly savage way, searching for more "spoil," and while thus engaged they had occasion to pass our kennels, when a valuable cross-bred "Bedlington" hound thought he would amuse himself by catching a few of them, so he started and killed some, and very soon there was a smell of formic acid, and, consequently, a "row," which ended by the dog having to be rescued covered with bees, after he had in the affray swallowed a few scores of them. Two other dogs got stung, and also several people. The poor hound first mentioned only lived till midnight, when he died while asleep through drinking sal volatile and carbonate of soda. We rubbed him with ammonia and put him in soda baths, but all was of no avail, as he was too badly stung. Poor fellow, he will be missed in the district, as he was a champion fox-drawer (and killer) when "to-ground." I have had a hunter lent for four seasons for his splendid work. I am having his skin stuffed to preserve the dog's memory and his reputation for pluck. He always had a hatred of bees and wasps, and I had on several occasions to stop him scratching at wasps' nests. — C. B. ELMHIRST, *Farnham, Knaresborough, Yorks, August* 3.

FOUL BROOD.

MY EXPERIENCE IN CURING IT.

[2584.] A few weeks ago someone asked in B. B. JOURNAL for a plain and simple way of dealing with foul brood. Having had considerable experience with it for a number of years, owing to my position as expert, I am now very pleased to give my experience for the benefit of the correspondent referred to, and my fellow bee-keepers. Some eight or nine years ago I first saw the disease (not in my own apiary), and have since seen it in different places I have visited. I think every year since. After trying nearly all advertised remedies with very little success, I thought this result might be due to my not being on the spot to see that my instructions had been carefully carried out. Nearly four years ago, however, I was obliged to move my bees close to where I knew foul brood was raging, and of course made up my mind to have a share of the trouble. In the following spring, sure enough, foul brood had shown itself in my apiary, and several different remedies tried, but they only kept it in check. Late last autumn I found some of my hives very bad, so I covered up as comfortable as possible for

the winter, determining to try another method early in the spring. When the time arrived I examined and found them still bad, and with the help of a brother expert set to work in the evening, shook bees off the combs, put them on clean combs in a clean home-made hive, and fed gently with medicated syrup. I am pleased to say that on examining the colony last week, also the other bees which I moved close to, there was not the slightest sign of the old enemy. I may also say that others I have similarly treated are doing well. The hives which had the disease in them, after being well washed with "Life-Buoy Soap," were shortly afterwards used and all are doing well. Of course I should recommend burning frames and combs. — A. J. B., 2nd class Expert, B.B.K.A., *Wotton-under-Edge.*

[We do not suppose that our correspondent for a moment intends it to be understood that he is putting forth anything new in the plan of dealing with foul brood detailed above. It is in fact—so far as its salient points—the method continually advocated in these pages, and fully explained in the *Guide Book.* Our only fault with what has been done—as stated above—is that no mention is made of the time the bees were kept (after the removal from the diseased combs) before putting them into a clean hive or clean combs. Then as to disinfection, we are not aware of the special virtues of "Life-Buoy Soap," but would much prefer a stronger remedy for disinfecting with.—EDS.]

BEES AT A BAZAAR.

[2585.] In your issue of the 6th inst. a notice to a correspondent, which appears on p. 320, has been pointed out to me ; and, as it obviously refers to my colleague and myself, I venture to let you hear the "other side" of the case. At the close of one of our lectures, a young lady asked if I could let her have an *observatory hive* with bees, to be exhibited at a bazaar. Finding, however, on inquiring, that the bazaar was to be held in the centre of the city, I remarked on the cruelty of keeping bees confined all day long, and even if a flight could be given them I stated my decided objection to bringing bees into the heart of Manchester, and, therefore, could promise her no assistance. On the other hand, I expressed my perfect willingness to have helped her if the bazaar had been held in the country. There—so far as your correspondent—the matter ended. But on walking down the road afterwards with the chairman, he mentioned a bazaar in which he was interested, to be held shortly in some beautiful grounds in the suburbs, and I at once suggested that we should have the bee tent, and that myself and colleague should give addresses and demonstrations in bee-keeping on the occasion. But this was a different affair altogether from staging for exhibition a mere observatory hive. The idea was eagerly taken up. I obtained the use of tent, my colleague lent a skep of bees and appliances, and I supplied a frame-hive, diagrams, and more appliances, and no other person had anything whatever to do with it. But before our affair took place, I was informed that an advertisement had appeared in a local paper for an observatory hive for a bazaar ; and that a person had replied thereto, and at that same bazaar had exhibited a hive. We, however, knew nothing of this till a week afterwards, and all our arrangements had then been made. These are the facts on the other side, and having stated them I shall be most happy to give the young lady every credit for the idea, though the two bazaars and bee exhibitions were entirely distinct. Nor do I hesitate to hand over all "patent rights" in the invention, and will, if required to do so, ask her permission when next I want to exhibit "bees at a bazaar."—FREDERICK H. TAYLOR, *Birch Fold Cottage, Fallowfield, Aug. 6th.*

WATER FOR BEES.

[2586.] Every bee-keeper knows, or should know, that a plentiful supply of water is indispensable for the apiary, but it must be so arranged that the bees can take what they want without the risk of being drowned. With your permission I should like to give your readers a hint on this subject. I have about thirty hives, and some 20 ft. distant, in the centre of the apiary, there is a shallow pan, 6 ft. long by 2 ft. wide, in which I grow watercress ; it is kept filled with water, supplies the house with cress in season, and the bees alighting on the stalks and leaves can get all the water they require without danger to themselves. I have not seen a drowned bee in this little tank ; but you may find them there any day you like, a hundred at a time.—ROBERT KING, *Spalding.*

TECHNICAL INSTRUCTION IN YORKSHIRE.

[2587.] During the bank-holiday week, in connection with the North Riding County Council, lectures and practical demonstrations in bee-keeping have been given by Mr. P. Scattergood, jun., of Stapleford, Notts. (lecturer on bee-keeping to the North Riding C.C.), at Helmsley, Stillington, and Northallerton. These lectures and practical work were supplementary to the course of winter lectures given in February last. At Helmsley, the lecture and demonstrations were held in connection with the Ryedale Agricultural Show and the Helmsley and District B.K.A. A large number of persons visited the bee tent to witness the demonstrations and to hear the lectures, and questions were asked and answered by the lecturer.

At Stillington, the village green was utilised for the occasion in the afternoon, and

a good company gathered to witness the manipulations and hear the advice given.

At Northallerton, the vicar's lawn and grounds were placed at the disposal of the Local Committee, and a large company assembled and stood for an hour and a half to see and hear what the lecturer had to do and say, much interest being evinced in the proceedings. At the close of the lecture here, the vicar, Dr. Barmby, moved a very hearty vote of thanks to the lecturer. The work done by the County Council in this department of technical instruction is bearing fruit, and many bee-keepers of the straw skep system are following the advice so willingly given after the more formal lectures by Mr. Scattergood to any one wishing for help and assistance; and it is to be hoped that the interest thus awakened may result in the strengthening of the associations now at work, and also in the formation of others.—W. MENNELL.

EXPERTS AND FOUL BROOD.

[2588.] As there are only two first-class experts in the L. & C.B.K.A.—of whom I happen to be one—the paragraph (2572, p. 305) in your issue of July 30, under heading "Bee Notes from Manchester," must presumably refer to one or other of us. I have inquired of the writer of the communication if the personal reference was meant for me, and the reply has been so very vague and uncertain that I am not at all satisfied with it. So far, however, as the editorial footnote appended to Mr. Taylor's letter, I am perfectly ready to give my "particular views" on the subject of foul brood to any one, and to maintain my opinion, and if Mr. Taylor will bring any *direct* charge I am ready to justify anything I may at any time have said or done with regard to this particular subject. I can, of course, only speak for myself, and now do. I conclude by saying that I hope to have either a denial of the statement in the last paragraph of your correspondent's letter, or the charge conveyed therein sustained.—W. J. ANSTEY (1st class expert B.B.K.A.), *August* 7.

[2589.] Referring to the communication which appeared in the B.J. of July 30 (2572, page 306), the writer in a paragraph headed, "Foul-Brood Preventives," mentions the doings of a "first-class expert." Now, as I happen to be one of the very few "1st. class experts" resident within reasonable distance of the district mentioned, I beg to entirely disclaim having ever taken up such a position with reference to the treatment or prevention of foul-brood.—BENJ. E. JONES, *Freckleton, Kirkham, August* 8.

THE SEASON IN ARGYLLSHIRE.

[2590.] Kindly let me know what age you consider the enclosed queen? I found her dead on the lighting board this morning. I intended to get a swarm from same hive, but I got neither swarm nor honey; something seemed to go wrong, and I thought queen was "aged." All my other hives have done splendidly; from one I got ninety-three 1-lb. sections, and as the heather is just at present in good condition, I hope to do well up to end of present month if weather is favourable. I might mention that out of nineteen hives I only had one swarm this year, and two in '95. I hope to take from all together 500 lbs., and as we depend only on clover and heather, I consider I have done well.—CHARLES MACGRORY, *Campbeltown, Argyllshire.*

[Queen received shows no signs of being aged or worn out. We should fear the hive is not healthy; and would examine combs at once.—EDS.]

FOUL-BROOD LEAFLET.

[2591.] The leaflet issued by the Board of Agriculture will, I trust, be the means of spreading a knowledge of the disease. I note one paragraph states, "When the bee-keeper has been in contact with diseased stocks, clothes, &c., must be washed with carbolic soap." As this is practically impossible in going from one apiary to another, some other means of disinfecting must be employed. A few suggestions from you in B.B.J. might be beneficial.—B.

[As we happen to know that our correspondent is himself an "expert," he should hardly need reminding of the danger—in spite of precautions—of going at once to overhaul healthy bees and combs after handling diseased colonies, and we should expect him to be fully alive to the risks attendant on his so doing. For the rest, we consider the context to the words quoted fully meets the difficulty mentioned, viz., "And other articles disinfected by spraying with a solution of 1 oz. Calvert's No. 5 carbolic acid in 12 oz. of water."—EDS.]

FOUL-BROOD STATISTICS.

[2592.] I am sorry that a printer's error should have occurred in my letter in B.B.J. (2577, p. 315), *Surrey* being printed for Sussex. The mistake has occasioned some annoyance to the Council of the Surrey B.K.A. I have no wish to interfere in any way with other counties, and I trust you will make the necessary correction in next issue of B.B.J.—C. BRERETON, *Pulborough, Sussex.*

BEE-KEEPING IN BIRMINGHAM.

[2593.] As your correspondent, "A Working Man" (Small Heath, p. 320), contemplates starting bee-keeping, I should feel delighted to give him any advice or assistance possible. There is a splendid field in this district for a

union of the craft to work in connection with some of the county associations. We are looking forward to an important conference dealing with the whole matter on an early date.—E. McNALLY, *Sparkbrook, August* 8.

WEATHER REPORT.

WESTBOURNE, SUSSEX, JULY, 1896.

Rainfall, ·90 in.	Above Average, 65·2 hours.
Heaviest fall, ·50 on 26th.	Mean Maximum, 69°.
Rain fell on 9 days.	Mean Minimum, 52·1°.
Below average, 2·38 in.	Mean Temperature, 60·5°.
Maximum Temperature, 80° on 21st.	Above average, 1·4°.
Minimum Temperature, 43°	Maximum Barometer, 30·7° on 2nd.
Sunshine, 263 hours.	Minimum Barometer, 29·8° on 20th.
Brightest Day, 12th, 15 hours.	
Sunless Day, 1.	

A poor honey harvest in this district; average about 35 lbs. per hive

L. B. BIRKETT.

Queries and Replies.

[1527.] *Queen-raising by a Learner.*—I have been trying my hand at queen-raising, and have worked as follows: On July 17 I placed a frame of clean new worker-comb, worked half-way down from a starter, in centre of a stock. Four days later I removed this frame (then containing eggs), setting it in centre of a strong stock, which, having been nine days queenless, had only sealed brood in the combs. Young bees were hatching rapidly. The bees at once started raising queens from the eggs given them, and built thirteen cells, all being sealed over. I fed well, as I thought, but all the queen-cells raised are small in size, not nearly so large as I expected. On the tenth day from setting the frame of eggs in the queen-raising stock I took away the frame with its thirteen queen-cells, and put it into my hot-water nursery, kept about 85 deg. The "Guide Book," page 10, says queens hatch on the sixteenth day; but my first three queens hatched out on August 9, nineteen days after the eggs were placed in the hive. No doubt some of the eggs would be laid two or three days previously, and, consequently, the queens must have been at least nineteen to twenty days in hatching. I am very much surprised at this result, and also at the cells being rather small. From reading the articles of Mr. Brice and others (I read all I can get hold of about bees), I gather that queens raised from the egg are always best as being fully developed in all their organs. I therefore ask: 1. What value do you place on size? In other words, is a queen likely to be fully satisfactory that is not of full size? 2. Suppose I take a queen reared from a grub two days' old, and compare her with one of these queens, reared from the egg and hatched out after nineteen days, which is likely to be best seeing that the latter are small queens? 3. What do you consider to be the cause of these queen cells being small?

I intend to keep the frame in the nursery until the workers hatch out, in order to note number of days occupied in the process under the same conditions. I enclose a queen cell that you may see the size.—LEARNER.

REPLY.—In the first place we fear our correspondent will find the artificial incubation of eggs and larvæ a disappointing task. Many have tried it, but given it up as impracticable. We should, however, like to know the result in your case. 1. Very large queens are often abnormal, consequently we prefer moderate-sized ones, which unmistakably bear the impress of being well developed. Undersized queens are nearly always faulty. 2. As a rule the best queens are raised from larvæ under thirty-six hours old. For the rest, your query is too complex to make more than a surmise possible, and this would depend on the circumstance of the case. 3. Seeing that the interior of cell sent extends to midrib of comb on which it is built, it cannot be considered an undersized one.

[1528.] *Coloured Comb-foundation.*—Can you please tell me the use of brood foundation coloured pink. A friend has lent me a case of specimens of wax, &c., collected by him, and I am showing same at a local flower show to try and create an interest in bee-keeping, but I do not know the idea of colouring the foundation. Can you explain it?—SOMERSET.

REPLY.—We have never seen comb-foundation stained either "pink" or any unnatural colour, and can only regard any attempt to manufacture such for sale as silly and stupid, seeing that it at once suggests adulteration. In the case of making it for use in sections, it would also tend to create suspicion as to the genuineness of the honey stored in combs built on it. Personally, we should only show such stuff in public in order to expose the folly (or worse) of manufacturing it for sale.

[1529.] *Bees and Bee Stings.*—1. Are the enclosed bees natives—*i.e.*, known as blacks? They are terrible stingers! As soon as the quilt is lifted they immediately anchor themselves all over one's hands. 2. This is my fifth year at keeping bees, yet stings continue to make my hands swell badly. An old bee-keeper told me it would take at least ten years before I got inoculated. Is there any artificial way of hastening the process? 3. If I habitually applied my hands to the common stinging nettle would that do anything towards it? I have read that the hairs of this

nettle contain formic acid. 4. If I applied the strongest liquid ammonia to a purposely made small cut would it be detrimental to my blood? — G. THORNTON, *Handsworth, August* 4.

REPLY.—1. Bees have a trace of foreign blood in them, though only slightly marked. You should re-queen the stock to do away with viciousness. 2. No; but with a sting or two per week, less than a couple of years is usually needed to make most bee-keepers cease to feel any evil effects worth thinking about. 3. We would any time rather be stung by a bee than with a "nettle." 4. Liquid ammonia is not included among poisons, and would do no harm in the direction named.

[1530.] *Dark Honey for Bee-food.*—I have some dark honey, both extracted and in sections, which I wish to use for feeding up my bees for winter. 1. If I give capped sections by placing them on a super-clearer, will the bees take the honey down? 2. If not, would it be safe to uncap them? 3. Can I give them the extracted honey in a feeding-bottle? I suppose the rapid feeder would not do? 4. Last year I made some surplus honey into candy, one-quarter honey to three-quarters sugar. Can you tell me the least proportion of sugar which will set the candy?—C. E. G., *Rugby, August* 8.

REPLY.—1 and 2. Sections for bees to clear out should have cappings removed, and be protected from bees getting at them from outside the hive. 3. Yes; but it should be diluted with a little warm water (if thick). Bees will take it from any kind of feeder. 4. The honey does not "set" the candy; constant stirring while cooling off does this.

Echoes from the Hives.

Morinsh, Ballindalloch, N.B., August 8.—Dull, cold, cloudy is the daily bulletin in regard to the weather since the middle of July. As for the rain, "It raineth every day." Unless an immediate change takes place, our prospects for the heather are very poor indeed. Drone grubs and even drones are being cast out, a sure sign of the times. Hives are teeming with bees, and everything is bright but the weather.—D. M. M.

BEE-KEEPING IN RUSSIA.

A report issued by the Russian Ministry of Crown Domains contains some interesting information relating to the progress of bee-keeping in Russia in Europe. As early as the thirteenth century the production of honey and wax appears to have been a prominent rural industry in the principality of Moscow. Indeed, apiculture was then regarded as of great importance to the economy of the country, and the products of the bee-keeper served not only for home consumption, but figured in the records of articles exported to Western Europe. In the sixteenth century Russian wax is said to have been exported to England from the White Sea. The trade flourished until the beginning of the eighteenth century, when the imposition of certain fiscal duties by Peter the Great led to a decline of the bee-keeping industry.

It seems that bee-culture is practised at the present time throughout European Russia and in many parts of Siberia, but it does not form an important branch of the occupations of the people. Some localities in Osetie and Abkhasia in the Caucasus, and in the Government of Ufa, form an exception, for in these districts bee-culture is the principal industry of a considerable number of the population. Even there, however, neither honey nor beeswax is produced in quantities sufficient to meet the demand.

Bees are bred in two different ways, viz., in the wild and domestic state. By the former method their culture is very simple: a swarm of wild bees settles in the hollow of a tree, generally prepared beforehand in such a way as to facilitate the removal of the honey. Hollow pieces of timber are sometimes fastened to the trees, and the wild bees hive therein. Wild apiculture is practised to a large extent in the governments of Kazan, Viatka, Perm, Ufa, and on the lower slopes of the Ural mountains, where extensive forests still exist. In these localities bees are bred by the Slavonic and other Russian people. The culture of bees in modern hives is developed in the central non-Chernoziom, Beloroussk, and Litovsk governments. In the two latter regions, owing to the presence of a great number of lime trees, the best honey, called *lipovits* (lime tree honey), is produced. In the Chernoziom region, apiculture is principally developed in Little Russia and in the south-western governments, especially in Tchernigov, Poltava, and Ekaterinoslav. The industry has attained its greatest development in the southern part of the government of Tchernigov, near Batourin and Konotop.

The peasant bee-keepers usually employ hives made of well-hollowed trunks. At the lower end the hive is open and fixed to a piece of board. The upper end is sometimes the continuation of the trunk, and sometimes a separate attachment, made of wood or of clay, which can be taken off when desirable. In the interior of these rude hives small crossbars are fixed to sustain the comb.

Section hives are principally used by estate owners and amateurs. Improved bee-hives are, however, being introduced even among peasants, especially in the west and south-west of Russia, in the governments of Podolsk, Volynsk, and Vistula. Of the improved hives

the most popular are those made on the English and American systems; but others of Russian manufacture are also used.

Artificial wax is comparatively a novelty in Russia, and is made in very small quantities. Very few persons manufacture it for sale.

The sowing of melliferous flowers for bees is very littled practised by Russian bee-keepers. The bees generally gather honey from the flowers in the surrounding fields and, in the neighbourhood of forests, from various trees, especially the lime. Buckwheat, which is cultivated all over Russia, especially on peasants' farms, gives abundant and excellent material for honey. In the government of Tchernigov, for example, buckwheat is the principal food for bees, and if that cereal fails the bees do not thrive. Generally the abundance or scarcity of honey depends upon the condition of field crops, and upon the length of time the crops are in blossom. In seasons of drought, as in the years 1890 and 1891, the bees are artificially fed from the beginning of summer, and the yields of honey and wax are then very small.

Honey and wax are gathered in different ways. From the common hives they are taken out by killing the bees, or by a method called *podreznoi*. By the first method all the bees in the hive are suffocated by smoke, and then the honey, the wax, and the bees are raked out with a hook *en masse* into receptacles. Honey extracted in this way, called *sirtsevoi* or *bochechnoi*, cannot be immediately used for food, but it is first sent to factories to be prepared. By the second method which is used for procuring honey in the comb, the bees are first expelled, in a manner dependent upon the construction of the hive, and then the honey is extracted. Sometimes the honey is removed from the hives after stupefying the bees with smoke, care being taken not to kill the swarm. In hives of improved construction, the honey is gathered either in the comb or in a pure state, the honey in the latter case running down into specially-prepared apparatus attached to the hives.

There are no data showing definitely the development of apiculture in Russia. It would appear, however, that, notwithstanding the decline of the industry, it is still practised, to a considerable extent, in the empire.

From such information as is available, it is estimated that Russia possesses not less than 2,000,000 hives. It is calculated by some authorities that the quantity of wax produced yearly averages from 64,000 cwt. to 96,000 cwt., while the annual production of honey is estimated at about 321,000 cwt.

At the present time Russian apiculture is admittedly in a state of transition, owing to the changes in the natural and economical conditions of Russia. It is no longer possible to pursue the industry according to primitive methods, without knowledge and without expense, as there are no extensive forests for wild apiculture, owing to the increasing areas of tilled lands. It has been found necessary to introduce the sowing of melliferous plants, and to increase the productiveness of the bees, as the prices of honey and wax, owing to the competition of substitutes, have fallen greatly in recent years. But the population, not being specially skilled in apiculture, do not readily adapt themselves to the new methods, and are said to lose greatly in consequence, as the industry is a very profitable one, and, if practised scientifically, might again form an important branch in the rural economy of Russia.

The Imperial Economical Society of Russia is endeavouring to promote the development of bee-culture by publishing and distributing information relating to the industry. The same body has also established a school of apiculture at Tver.—*Journal of the Board of Agriculture.*

Bee Shows to Come.

August 13.—At Goole, in connection with the Agricultural and Horticultural Show. Bees and Honey. Entries closed. J. Luddington and H. S. White, secs., Lindum House, Goole.

August 15.—South of Scotland B.K.A. Annual Show at Dumfries. "Burns Centenary" classes open to all-comers. Schedules now ready. Entries closed. James Kerr, Secretary, Douglas-terrace, Dumfries.

August 19.—At Court Gardens, Marlow. Show of bees, honey, hives, and appliances in connection with the Marlow Horticultural Society Show. Seven classes out of ten are open to all. Liberal prizes. For schedules apply to Arthur D. Cripps, hon. sec., Marlow. Entries close August 15.

August 19 and 20.—In the Quarry, Shrewsbury. Honey Fair and Show of Honey, Hives, and Bee Appliances, of the Shropshire B.K.A., in connection with the Shropshire Horticultural Society's great Fête. Over £35 in prizes. Schedules, &c., from T. Whittingham, Upton Magna, Shrewsbury. Entries closed.

August 22, at Royton, Lancashire.—The Royton Agricultural Society, in connection with the Manchester and District Bee-keepers' Association. Entries close August 15. Schedules from A. S. Ormerod, 37, Rochdale-road, Royton, Lancs.

August 29.—In the Corn Exchange. Biggar Bee-keepers' Association. Annual exhibition of bees, honey, wax, &c. Thirteen classes open to all. Entries close August 25. Schedules from Wm. Ormiston, sec., Biggar, N.B.

September 2 and 3.—At Birkenhead. In connection with the Wirral and Birkenhead Agricultural Society. Show of hives and

honey. Two classes for twelve sections and two for twelve jars extracted honey; one of each being open to all. Open class for best frame-hive. Liberal prizes. Entries close August 19. Schedules from Arthur H. Edwardson, 28, Hamilton-street, Birkenhead. The bee-tent of the L. and C.B.K.A. will be on the ground and lectures given each day.

September 5.—Lancashire and Cheshire B.K.A., in connection with Bramhall and Woodford Horticultural Society. Annual show of honey at Bramhall Hall. Open to district and members of the L. and C. B. K. Association only. Schedules from secretary. J. Bell, Davenport, Stockport.

September 8.—At Moorgreen. Notts B.K.A., in connection with the Greasley, Selston, and Eastwood Agricultural Society. Open class for a 1 lb. bottle of honey. Schedules ready. Apply Geo. Hayes, Mona-st., Beeston, Notts. Entries close August 29.

September 9 and 10.—At Derby. In connection with the annual show of the Derbyshire Agricultural Society. Fifteenth Annual Show of the D.B.K.A. as above. Liberal prizes for bees, hives, and honey. Six of the eighteen classes are open to all comers. Schedules from F. Walker, Cattle Market, Derby.

September 16.—Wotton-under-Edge B.K.A. Annual Show of Honey. In the Church Mill. Schedules from E. W. Read, Hon. Sec., Wotton-under-Edge.

September 26.—At the Corn Exchange, Jedburgh. Annual show of Roxburghshire B.K.A. Twenty-eight classes, all open to members free of entry-fee. Entries close September 22. Thos. Clark, secretary, Pleasants Schoolhouse, Jedburgh, N.B.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

F. HARRIS (Boston).—The driven swarm now in frame-hive will need careful watching, as comb sent is rather badly affected with foul brood. There is, however, no need for alarm beyond this, as the disease may have been contracted by the bees in skep since the swarm was taken from it in May last.

CHAS. AINGER (Caistor).—Sprig of bloom sent is bell-heather, not the true "ling" or honey-heather.

W. C. (Blackburn).—There is no doubt much risk in buying bees without guarantee as to their perfect healthiness when received. Seeing, however, the difficulty of getting rid of the spores of foul brood, no precaution should be neglected so far as using preventives.

H. V. (Burry Port).—*Artificial Swarming.*—If the young queen is safely mated, she will begin to lay in about 5 or 6 days afterwards.

H. PUGH (Bury St. Edmunds).—*Transferring Bees to Frame-hive.*—Seeing that the bees have only partly worked out the foundation in lower hive, and that all the brood will be in skep above, we should leave the latter where it is for winter, and let the bees transfer themselves next spring.

W. (Guildford).—Only two sprigs of bloom were enclosed, not three as stated. Neither being the true "ling," or honey heather.

W. W. (Grandboro').—*Keeping Moths from Combs.*—For preserving combs nothing is better than sprinkling a little powdered naphthaline on the paper in which the combs are wrapped for stowing away.

Several communications are unavoidably held over until next week.

Special Prepaid Advertisements.

Situations, Publications, Bee Plants, &c.—Up to Twelve words, Sixpence; for every additional Three words or under, One Penny.

SALE.—COWAN HIVE, new; also Nucleus HIVE, 4 frames. MALLOCH, Bentham. N 1

BEES BOUGHT, any quantity. Little Wonder for Sale, 5s. 6d. GRIMBLY, Minster, Thanet. M 95

WANTED.—Pure English BEESWAX for cash. Send lowest price with sample. FLEWELLING, Burford, Shepton Mallett.

WARRANTED pure Berkshire HONEY (extracted). Any quantity. Samples, 3d. C. CHATTERTON, Faringdon. N 2

THREE STOCKS, in new hives, headed by '96 Queens, perfectly healthy, 18s. each. LEONARD SMITH, Elstow, Bedford. N 4

SURPLUS BAR-FRAME STOCKS, Healthy, 25s., 35s. Gilt Section Bands, 1s. 100. WOOD & TAYLOR, Apiary, Hathersage, Sheffield. M 99

PRIME CLOVER HONEY, in 1 lb. bottles and sections, each 8s. per doz. T. FORD, Warboro', Wallingford, Berks. M 96

HEALTHY DRIVEN BEES, 1s. 3d. per lb. 5-lb. lots with Queens; also single Stocks with '96 Queens, 2s. 6d. each. E. LONG, Fulbourn, Cambs.

YOUNG CARNIOLAN HYBRID QUEENS, 3s. 6d., with Nuclei, 10s. FRANK REED, Portslade, Sussex.

FOR SALE, 54 good 1-lb. Sections, 36s. the lot. Also Hive and bees on 9 Frames, plenty of stores, 25s. J. RHODES, Greenhithe, Kent.

FOR SALE.—5 cwt. of Pure Berkshire Extracted HONEY, 6½d. per lb. Sample, 4½d. (Deposit.) JOHN DANCE, Little Common, Inkpen, Hungerford, Berks. M 98

EXTRACTED ENGLISH HONEY, samples 3d., and 100 Sections, price on application. W. T. FRYER, Railway Arch, Gordon-road, High Wycombe. N 6

DRIVEN BEES, 1s. per lb. Money Orders payable at Kings Somborne. Remittance must accompany all orders. OWEN BROWNING, Kings Somborne, Stockbridge, Hants. N 5

FOR DISPOSAL, several Strong STOCKS of BEES in Bar Frame Hives and Skeps; guaranteed free from Foul Brood; also appliances, &c. GODFREY KITCHING, Mellwood, Sharrow, Sheffield. M 94

Editorial, Notices, &c.

USEFUL HINTS.

Weather. — Rain has fallen plentifully since our last weather report, and pastures everywhere are green as in the spring, but so far, there is no sign of a late autumn honey-gathering such as was general last year. It is just possible we may experience—in very modified form —a touch of the "heat wave" recently felt in America with such disastrous results to human life. At present, however, the most satisfactory thing about the bees is that they are keeping up breeding very well indeed, and this goes a long way towards ensuring safe wintering, so far as providing plenty of vigorous young bees for next season's work.

Talking of next season reminds us of a somewhat paradoxical saying, according to which next year's work begins in this! It is, however, none the less true that the preparations made in the autumn of 1896 will have a very important bearing upon the chances of success in 1897. Young queens, young bees—and plenty of 'em — together with ample stores, are essential elements to be relied on for yielding the best results in the future. It is, therefore, not too soon to offer a hint about being in good time with autumn preparations for safe wintering.

Light and Dark Honey. — One of the most marked peculiarities of the present bee season has been the prevalence of dark honey in districts where, in the ordinary course, only honey distinctly light in colour is gathered by bees. This matter was dealt with in a leader last week, but owing to the exigencies of time and space, we could not enter into the subject other than in the briefest fashion, while the few words we did say are not improved by printers' errors, which, having no opportunity at the time, we here correct.—In third line of second paragraph (page 321) add *honey* after the word "bright," and omit words "the produce of" in second line from end of article.

The subject is, however, of such importance as to deserve further reference here, in view of its not being generally known that in many show-schedules separate classes are already provided for light and dark honeys respectively. Intending exhibitors will also be glad to know that the Council of the British Dairy Farmers' Association have adopted the recommendation made by the British Bee-keepers' Association in the direction of improving the schedule of the Dairy Show honey classes. There will this year be separate classes for dark and light honey, as well as for that from the "heather." It will be admitted on all hands that this distinction is absolutely necessary—if equal justice is to be done —and by none more readily than judges themselves. In fact, gentlemen who undertake this onerous, and sometimes thankless, task have been subjected to undeserved odium at times because of their obvious preference for the light-coloured article. It is moreover certain that the separation of light from dark honey on the show-bench will not only allow of a clear recognition of the respective merits of each kind, but will ensure a larger entry and a far more comprehensive display of bee-produce; many would-be exhibitors refusing to show so long as the preference for light honey causes their exhibits to be regularly ignored in competition.

There is so much of palpable injustice in anything which savours of favouring colour only, without any regard at all to the far more important point of flavour, that the present disposition to bring about a better condition of things will be sure to meet with general approbation. But we must—as pointed out last week—carefully avoid any wandering off to the other extreme by attempting to force dark honey to the front if the quality, apart from colour, is inferior. Tastes differ, and will continue to do so, but it is not difficult to draw the line. Nor does the colour of honey stand so much in the way as some suppose. Take heather honey as a case in point; this is always dark in colour, and when extracted and in liquid, or semi-liquid, condition is by no means attractive in appearance; but is there any failure to appreciate the other good qualities of heather honey on that account? On the other hand we say again that to unduly push dark honey because it *is* dark will be a fatal mistake so far as hoping thereby to increase the number of consumers. Let the merits

of really *good* dark honey be proclaimed as loudly as need be, but don't let us waste time in the vain endeavour to educate the public taste into believing that bee-keepers know better than other folk what is pleasant or otherwise to the palate. Any such attempt will rather tend to the ignoring of honey altogether as either a table delicacy or as an article of daily food.

Having made this really needful qualification, we entirely agree with all who desire to see the good points of many dark honeys fully recognised, and we are very pleased to see the matter again referred to by another correspondent on page 337 in connection with the coming Dairy Show. The subject only needs to be dealt with in a business-like manner in order that equal justice may be done to every kind of nectar offered to the bee by the hand of a very bountiful Nature, be it fruit-blossom, field-flower, or the bloom of the purple heather.

HONEY BUYING AND SELLING.—The season for turning the honey-crop into cash being now in full swing, we have had several inquiries from bee-keepers—who are alive to the attendant risks—as to the wisdom or otherwise of parting with their produce without first receiving cash for the same. In the cases we specially refer to, the sale was, as a rule, effected by sample, and we were inquired of as to our opinion of the soundness of intending buyers. Applications of this kind can, however, only be dealt with in one way, viz., by our refusing to accept any responsibility whatever for either buyers or sellers who use our advertising columns as a medium for trading. It was in consequence of past complaints on this head that we adopted the system of payment by "deposit," and this has worked with such uniformly satisfactory results to both parties that there remains no excuse for its non-adoption. This is especially so in the case of buyers, who not only secure inspection of "bulk" before closing the bargain, but incur no cost whatever; the seller paying the trifling sum charged for postages, &c. Pressure on our limited advertising space has for a long time past precluded the insertion of details on which the system is based, but, in view of saving trouble to readers, we this week again print the particulars mentioned, and it is no reflection on any one for us to adopt a uniform reply to such inquiries as are referred to above, as we have done, in advising payment by deposit in all cases where a doubt exists, according to the terms printed on inside cover of this issue.

By following this advice, no one can possibly suffer wrong, because the cash remains in our custody until we receive notice that both parties are thoroughly satisfied.

Death of Mr. Walter Martin,

OF WAINFLEET, LINCOLNSHIRE.

The sad news of the almost sudden death of the above-named gentleman, in the very prime of life and apparently robust health, will, we are sure, be received with profound sorrow by a large number of our readers, by whom he was well known and highly esteemed. For many years prior to the death of his father (Mr. Jas. Martin, of Wainfleet Hall, Lincs.), Mr. W. Martin was an active and influential supporter of the bee-industry, not only in his own county, but as a prominent member of the B.B.K.A. His latest work in connection with the latter body was in his capacity of County Councillor for the Lindsey Division of Lincs.; being appointed a member of the Joint Committee on foul brood legislation, now preparing a Bill for presenting to Parliament. Mr. Martin also officiated for a long time as one of the judges of the bee and honey department of the "Royal" show, in which capacity it has been our pleasure for a good many successive years to have him as a colleague.

He was too much occupied with the management of the large business and estate left him by his father, to allow of devoting so much time as formerly to the bees, but even up to the last "Royal" show his well-known and commanding figure was seen, looking the picture of health and strength, only to be cut off in a few weeks.

The Hon. Sec. of the Lincs. B.K.A. sends the following further particulars relating to the sad event:—

"Mr. Walter Martin died at Skegness on Tuesday, August 11, at the early age of 39. He was quite well and attended to business at Louth on August 6, and was present at a meeting of the Lindsey County Council the following day. He recently suffered from an abcess at the root of a tooth, which he had removed. But on Sunday erysipelas intervened, which rapidly spread to his brain, and he breathed his last as stated above, and was interred at Wainfleet on Friday last, August 14. By his decease the bee-keepers in Lincs. have lost a staunch friend and a strong supporter of our craft. It was entirely through his generosity that our County Asso-

ciation was re-organised in 1889; he made an offer of £5 to the funds of the "new" Association if a suitable secretary could be found; one was soon forthcoming, and so the Association, which had been allowed to lapse for several years, thus started into new life, and on so firm a footing that it is now one of the most flourishing in the kingdom. As a member of the council of the Lincolnshire Agricultural Society, he also started the Honey and Bee-Appliance Department at this great show, and his influence as a member of the Technical Education Committee of the Lindsey C.C., secured a grant of £25, which sum has been annually given to the B.K.A. for lectures on Bee-keeping in these parts of the county He was a member of the Committee of the L.B.K.A., but through pressure of business he was not able to spare the time to attend the meetings, but he had the welfare of the Association at heart, and no one but myself knows the assistance he has rendered by his kindly counsel and friendly advice."

On our own behalf, and for numerous friends who are readers of this Journal, we tender our deep and sincere sympathy to the widow and family in their great sorrow.

HUNTINGDONSHIRE B.K.A.

The fourteenth annual show of bees and bee-produce was held at St. Ives, in conjunction with the exhibition of the St. Ives Horticultural Society, on the 30th ult. For a small show it was a very satisfactory one indeed, especially as the county of Hunts is this season unfortunate in having—along with so many other good honey counties—its honey of a darker shade than usual.

Some very good honey was, however, shown, and in the Trophy class two very good displays were made by Mr. Woods and Mr. Brown respectively, the former carrying off the silver challenge cup for the second time, so that one more "win" will make it his own property.

There is an interesting fact in connection with one exhibitor who was present at the show. Mr. E. Allen—who took 3rd prize for wax—has been a bee-keeper fifty-three years. He commenced with a stray swarm which settled in the stump of a tree. Equipped with stockings on his hands, and aided by no intimidant, he changed their domicile to a straw skep, and only once since that time has he been without bees.

Mr. W. Broughton Carr judged the exhibits, and also conducted an examination for third-class experts' certificates of the B.B.K.A.

AWARDS.

Observatory Hive.—1st, R. Brown, Somersham.

Twelve 1-*lb. Sections.*—1st, W. H. Woods, Hemingford Grey; 2nd, A. Sharp, Brampton; 3rd, R. Brown, Somersham.

Twelve 1-*lb. Jars Extracted Honey.*—1st, W. Woods; 2nd, J. Osborn, Buckden; 3rd, R. Brown.

Twelve 1-*lb. Jars Granulated Honey.*—1st, R. Brown; 2nd, W. H. Woods.

Three Shallow Frames for Extracting.—1st, R. Brown.

Beeswax.—1st, R. Brown; 2nd, J. Osborn, Buckden; 3rd, E. Allen, Godmanchester.

Display of Honey (Silver Challenge Cup).—1st, W. H. Woods; 2nd, R. Brown.—C. N. WHITE, hon. sec. Hunts B.K.A.

SHOW AT KINGSBRIDGE, DEVON.

The Kingsbridge Cottage and Horticultural Society held its annual exhibition of bees, honey, &c., on August 13, and it is gratifying to note the increase in this section of the show for the second year.

The Rev. T. F. Boultbee, who judged the exhibits, made the following awards:—

Twelve 1-*lb. Sections.*—1st, H. Patey, Chillington; 2nd, C. Marks, Frogmore.

Six 1-*lb. Sections.*—1st, C. Marks; 2nd, J. Parkhouse, Kingsbridge.

Six 1-*lb. Jars Extracted Honey.*—1st, C. Marks; 2nd, H. Patey; Com. Rev. W. T. Adey.

Collection of Honey.—1st, C. Marks.

Beeswax.—1st, C. Marks; 2nd, H. Patey.

The show was a complete success, the whole of the arrangements being carried out under the personal supervision of Mr. Jno. Blackler, senr.

During the afternoon the Rev. W. T. Adey gave at intervals interesting lectures on bee-keeping, &c.—(*Communicated*)

HONEY SHOW AT NESTON, WILTS.

The bee-keepers of Neston and neighbourhood have, by their exhibition of honey at the Atworth and District Flower Show on August 5th, shown they have a good article in that district, and are determined to make the best use of their products. The show was held in the beautiful grounds of Neston Park, Wilts, by permission of G. P. Fuller, Esq.

The great improvement in the exhibits may be attributed to the demonstrative lessons by Mr. Owen, of Corsham, during the last two years, and the lectures of Mr. Martin, as over 700 lbs. of honey were shown in the twelve classes, making it difficult work awarding the prizes.

Mr. Martin, of Bath, again officiated as judge, and made the following awards:—

Twelve 1-*lb. Sections.*—1st, A. J. Bird; 2nd, H. Frankham; 3rd, F. Sheppard.

Six 1-*lb. Sections.*—1st, J. W. Spencer; 2nd, J. Barnett; 3rd, E. Davis.

Twelve 1-*lb. Jars Extracted Honey.*—1st, H. Frankham ; 2nd, T. Owen ; 3rd, A. J. Bird.

Six 1-*lb. Jars Extracted Honey.*—1st, J. Barnett ; 2nd, F. Sheppard ; 3rd, E. Davis.

Honey Trophy.—1st, A. J. Bird ; 2nd, H. Frankham ; 3rd, T. Owen.

Super of Honey.—1st, T. Owen ; 2nd, R. Pearce.

Shallow Frame of Comb Honey.—1st, J. Barnett ; 2nd, T. Owen ; 3rd, H. Frankham.

Honey Comb above 4 *lbs.*—1st, H. Frankham ; 2nd, J. Barnett ; 3rd, T. Owen.

Single 1-*lb. Jar Extracted Honey* (*Open*).—1st, T. Owen ; 2nd, E. Davis ; 3rd, S. Barnett.

Single 1-*lb. Section* (*Open*).—1st, Rev. W. E. Burkitt ; 2nd, J. Barnett ; 3rd, T. Owen.

Beeswax.—1st, H. Frankham ; 2nd, T. Owen ; 3rd, E. Davis.

Greatest number of Queen Wasps.—1st, H. Hulbert ; 2nd, E. Davis ; 3rd, J. Mortimer.

Best Exhibit by Members of Bee Class.—1st, J. Barnett ; 2nd, E. Davis.—(*Communicated*)

THE SHOW AT CHESTER.

Referring to our report of the above show as printed on page 323 last week, we were obliged to rely on the local press for list of awards in the honey classes. And, as the commended exhibits were not included therein, we append the full list as being necessary where the competition was so keen and close among the large number of entries staged.

HONEY (OPEN CLASSES).

Twelve 1-*lb. Sections.*—1st, J. Stone, Cubley; 2nd, Wm. Woodley, Beedon ; 3rd, W. P. Meadows, Syston ; h.c., Fred. Dutton, Huxley ; c., John Davies.

Twelve 1-*lb. Jars Extracted Honey.*—1st, Wm. Woodley ; 2nd, W. P. Meadows ; 3rd, Rev. T. J. Evans, Hargrave Vicarage ; v.h.c., Jas. Williams ; h.c., Thos. Evans, Sanghall ; J. Hughes, Sanghall ; J. Cotgreave, Hargrave ; J. Shelton, Syston ; and O. Roberts ; c, H. W. Herrod, Newark-on-Trent ; and P. Cotgreave.

Two Shallow Frames for Extracting.—1st, J. Shelton ; 2nd, W. P. Meadows ; 3rd, J. Cunnah, Marford ; c., Mrs. Knowles and Dr. B. E. Jones.

MEMBERS ONLY.

Twelve 1-*lb. Sections.*—1st, Rev. T. J. Evans ; 2nd, R. Dodd ; 3rd, F. Dutton ; h.c., F. J. Williamson ; c., J. Hughes.

Twelve 1-*lb. Jars Extracted Honey.*—1st, O. Roberts ; 2nd, W. Forrester ; 3rd, Rev. T. J. Evans ; v.h.c., S. Eaton, O. Roberts, and J. Williams ; h.c., Rev. T. J. Evans, J. Hughes, T. Evans, and Mrs. E. Jones ; c., P. Cotgreave.

ABOUT OUR BEES.

BY HENRY W. BRICE.

XVI.

WINTER NECESSITIES.

As the season draws to a close it becomes necessary to give attention to preparing for the safety and comfort of our bees during the long period of rest. Few fully appreciate the importance of timely and carefully preparation of our colonies to bring them out in the best condition for work in the new year. With the advent of September stocks must have attention before the nights get too cold. The first necessity is to remove all frames but such as are well covered with bees ; this done, be quite sure that there is sufficient food within the hive for at least six months' consumption. Twenty pounds is the lowest estimate I can put down as rendering a good colony safe for that period, and this should be supplemented by a two pound cake of soft candy placed over the frames. Anything below this amount should be supplied rapidly that it may be sealed over, and every preparation within and without the hive finished by the first week in October. Colonies having more than sufficient stores, may have a frame or two of food removed and given to those stocks which are short, if the bees from which the food is taken are healthy. In feeding, use only pure cane sugar ; 10 lbs. to 5 pints of water, boil for a minute, then stir in a teaspoonful of salt and a few drops of naphthol beta solution, made as directed on the packet. After feeding up is completed, remove a central comb (broodless, of course) and replace with a frame of empty worker-comb, for the bees to cluster upon. The reason for this will also provide breeding-room for the queen, and, further, as cold weather comes on, much of the most recently-stored food will be used for the daily wants of the colony, so that every vacant cell in particular comb so placed in centre will contain a live bee, thus making the cluster more compact, and tending greatly to preserve the heat within a limited space. As the weather becomes colder, remove every frame of comb not covered with bees, and place a well-fitting dummy board in position to close all up. And after setting on the cake of candy mentioned above, cover all down. Do not disfigure combs by cutting winter passages through them ; the bees will eat passage-ways through the candy-cake for themselves better than any we can provide them with. Never attempt to winter weak stocks ; and as for winter packing, as has been well said, the best packing for bees is *bees*. My experience with regard to packing is that, whilst advocating outer cases and inner walls to all hives, the air-space between these two is all sufficient, and that it is unnecessary to pack the sides of hives at all. The one spot that requires packing is the top of brood-nest ; here we cannot well put on too much ; a chaff cushion and a few

porous quilts on top is about right; then over all a waterproof quilt or a newspaper; finally, a good sound roof; and if the bees and stores in the month of October are in good condition we may content ourselves with knowledge that, however severe the winter may be, our bees are safe and snug. Many recommend spacing the frames wider apart than ordinary for winter, this is good in its way, but where metal ends are in use I should not recommend the plan. Another "fad" of mine is never to remove the brace-combs from tops of the frames when preparing for winter. I simply place the candy above any projecting pieces of comb, and thus natural winter passages are formed at once. When the spring is well advanced, the frame-tops are scraped clean, so that quilts lie close down and keep in the warmth of brood-nest. In the absence of brace-combs a couple of pieces of stick are laid crossways along the frames before placing the cake of candy thereon, thus ensuring passage-ways over the frames. Make the candy cake as per recipe on p. 160 of the "Guide Book," but with the addition of a ¼ lb. of honey to every 18 lb. of sugar. Even small stocks with young queens may be successfully wintered under a well-made cake of candy. As an instance of this, I became the possessor last November of a nucleus colony, in which the bees barely covered two frames, and had hardly any stores at all. I placed a big cake of warm candy on the top, piled on a lot of coverings, and left them alone all winter. The bees came out well, and made a good stock during the present season.

Another great point to see to is that the queen is kept breeding quite up to the end of August, or, if possible, well into September. These young, late hatched bees form our sheet-anchor in the following spring. A hive full of old bees in October stands no chance of doing well later on, but, by keeping the old hands hard at work rearing young bees, we replace them with vigorous young workers, which will all survive the long dreary months and bring the stock well on the way to prosperity in the following spring. Damp in winter is disastrous to bees, therefore make it a *sine quâ non* that roofs are watertight; when wet penetrates to the bees from the top while they are in quiescent state, the stock will almost certainly be ruined.

Plenty of ventilation is needed in the hive equally as in the summer-time, but winter ventilation must be of the right sort, *i.e.*, by porous coverings above and 2 in. or 3 in. of open space below the frames. All hives are not capable of being so arranged, but I am convinced that the space at the bottom is most advantageous, and the entrance can either be narrowed or left wide open, as the space provides abundant room for air to slowly percolate through the cluster of bees, and finally take its exit, viâ the quilt, without loss of any heat whatever, as the body of packing above retains the warmth, and the cake of candy immediately over the bees causes the air to escape round its outer edge, and not directly over the bees.

Should the entrances become covered up with snow, let it remain while the severe weather lasts, but when the change comes clear all away, and shade entrances from bright sun.

Under any circumstances, in the winter season, it is only necessary to make sure that the bees have plenty of stores, and this can be ascertained by pressing the paper covering the candy cake, or by just turning up the corner of the quilts without disturbing the bees at all. Should food be required, take another cake of candy, tear an opening in the paper covering of the old cake, fold it back, and quickly place the new cake over the aperture so made, and if the cake is slightly hollowed out in the centre it saves even the crushing of a single bee. I have placed cakes of warm candy by this method over my bees in most inclement weather, and always with success, and beneficial results. — *Thornton Heath.*

(*To be continued.*)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*" *(see 1st page of advertisements).*

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

MY THREE SEASONS' BEE-KEEPING.

A SUCCESSFUL START.

[2594.] A short outline of my three summers' experience of bee-keeping and its results may be of interest to some of your readers.

After attending five lectures on bee-keeping in the spring of 1894, I, in the following May, bought a swarm and, not having a frame-hive, kept them for a time in the skep. When the skep was full of comb, I put on a super holding seven shallow frames, and as soon as bees had filled these frames, I removed them and transferred bees and combs into a frame-hive, and prepared them to pass the winter.

In the June of same year (1894) I bought a

second swarm and put them into a frame-hive, the bees filling the six frames given them on hiving in about ten days, and completing the full complement of ten less than a week later. They then had a box of shallow frames put on, and quickly filled eight, which, after extracting, were replaced and again filled, but the honey flow was over before the capping was down. This hive is No. 2 in my apiary, and I mention it as I shall have something further to say about it. The shallow frames I use are wide-spaced, and weigh from 4 lb. to 5 lb. and over when full; but I only allow each to hold, when extracted, 3 lb., as I wish to be well within the mark in estimating the quantity of honey I get. At the end of '94 I drove some cottagers' bees; this was done in August, and I put them on frames of foundation, which they worked out into combs, and came out in '95 a fine strong lot. Of course, they were well fed while drawing out the foundation.

I started '95 with three lots of bees in frame-hives, and also bought a small stock in skep. From these I filled during the summer two double hives, the only single one (No. 2 of last year) left turning out a really splendid lot of bees, and they alone, besides giving an enormous swarm—which no tiering up would prevent—also gave me forty-two sections, twenty shallow frames, and two deep frames of honey.

From one of the double hives I obtained ten sections, thirty-six shallow-frames, and five deep frames (this hive is No. 3); and from the other double hive (No. 5) I got six shallow frames and eighteen sections. Allowing for brood that got into some of the shallow frames of No. 2, and allowing at the rate of 3 lb. of honey for each wide-spaced frame, I consider that this hive gave me 100 lb. of honey besides the great swarm. No. 3 hive gave 131 lb., and No. 5 hive 36 lb. As the bees were fresh to the two latter hives, I consider they were handicapped, and therefore the yield was not a fair estimate of a summer's work.

I have had no swarm this year (1896), and started with No. 2 (single), No. 3 (double) (one side empty from robbing by its partners; but this I filled with bees on four frames, which had thus wintered, having been driven in August 1895 from a straw skep, and this side of the hive had, of course, to work out several sheets of foundation to make up the requisite number of ten frames. I had two or three worked-out frames by me, and this, of course, saved them some labour), and No. 5 hive (double). From these I have taken the following: — From No. 2, 21 sections, 7 shallow-frames completed, and 8 shallow-frames not completed. From No. 3 hive, 31 shallow-frames, 8 deep-frames, and 34 sections. From No. 5 hive, 27 shallow-frames, 2 deep-frames, and 21 sections. They are all wide-spaced, and, at my estimate of 3 lb. each, I get from my three hives as follows, viz.:— No. 2, 54 lb.; No. 3, 151 lb.; and No. 5, 108 lb., or a total of 313 lb. From this it will be seen that No. 2, single hive, has given in the three summers 188 lb. of honey besides a large swarm, while No. 3 (double hive) has given in two summers 282 lb. This hive has a ½ inch division board, with all the holes blocked up from the time I first put the bees in. I cannot see the advantage of these perforations, for my small experience is that the bees fill up the holes at once. This hive, being the first double hive I made, has a floor-board from which the brood-chamber has to be lifted off, a fatal mistake, in my opinion, for two reasons—it is too heavy to be easily lifted off, and, if it is, there is the fear of the queens getting together. To clean this hive I have to put all the bees into a spare hive, which is a rather long process. The second double hive (No. 5) I made, I remedied this defect by making the floor-board freely moveable, and putting it on with hinges, the hinges being on the outside so as to be easily unscrewed.

I fear I shall be very much trespassing on your valuable space, but the great interest in the subject leads me on to write more than I intended.—F. L. NICHOLLS, *Fulbourn, August* 16, 1896.

[We congratulate our correspondent on his success, which shows him to be possessed of aptness for the pursuit.—EDS.]

LIGHT *v.* DARK HONEY.

EFFECTS OF SOIL ON COLOUR.

[2595] Referring to Mr. Attfield's letter, which appears on page 321 of last week's B.J., and your notes thereon, I may say the discussion arose on account of the samples of honey sent to you being exhibited at our show at Newbury on August 3, which place is in the centre of our best bee-keeping district, and it naturally aroused some curiosity as to what it came from. Mr. Attfield, who very kindly brought with him a beautiful collection of flowers representing the flora of his district in addition to his exhibit of honey, and in which, as coming from Ascot, heather largely predominated, Mr. Burkett and myself, as judges, thought at first that this accounted for the colour, but when it came to flavour we were, like yourselves, disappointed, and in discussing the matter afterwards we found from Mr. Attfield that having been gathered early in the season there was but very little heather honey in it. Thereupon arose the question why the honey was so dark, Mr. Attfield contending that the soil of a district largely affects the colour of the honey; and, given the same plants in two districts, but grown in different soils, the colours would be as markedly different as his sample is from the best honey produced in West Berks. While agreeing that it may have some effect upon the colour, we held that it could not possibly do so to the extent of the case we were discussing. But it raised a very

interesting question which perhaps some readers of the BEE JOURNAL may like to ventilate and investigate, viz.: The effect of soil upon the colour of honey. It was this rather than the commercial value which was discussed, as the latter must be left to public taste and fashion to decide.—A. D. WOODLEY, 17, *Market-place, Reading, August* 17.

[The above reaches us when preparing for press. We may, however, refer to the matter next week, and in the meantime will be glad to have any opinion—based if possible on experience—that readers may favour us with.—EDS.]

LIGHT *v.* DARK HONEY.

[2596.] Thank you for Editorial in last week's JOURNAL in support of separate classes at shows for dark honey. If those in authority could only arrange a class for dark honey at the Dairy Show, it would be a great assistance to bee-keepers in dark honey districts. The honey staged at the Dairy Show is accepted as a guide by the public of what, at any rate, honey should look like. If it is once seen that dark honey always receives recognition, the demand will, as a matter of course, increase. In deciding between a light and dark honey, equal in all respects except colour, judges must necessarily give preference to the light, and any objection to this would be unreasonable. This is the dark honey producers' grievance, and will be so until dark honey classes are instituted. Very little dark honey is staged at the Dairy Show, but plenty would be if there was a class for it.—A. N., *Upper Clapton, August* 14.

BEE-KEEPERS AND THE DAIRY SHOW.

[2597.] May I be allowed to suggest the advisability of asking through your columns that those who intend visiting the forthcoming Dairy Show at the Agricultural Hall will record their names in the B.J.? I do this, believing it would be useful as conducing to friendly intercourse among the members of our craft. Customers will meet dealers and dealers meet customers, and those of small experience would touch those who have a reputation, and perhaps it would induce more to contribute to the special fund for that occasion. Anyway, I offer the suggestion for what it is worth.—JOHN BROWN, *Polyphant, nr. Launceston, August* 11.

THE SEASON IN IRELAND.

[2598.] My black bees have done splendid work (about 50 lb. per hive to August 1); all collected after that remains in brood chamber for winter. Four Italian stocks have done nothing but breed; they are not, however (as described in page 132 of "Guide Book"), "similar in size to the black bee," as *my* blacks are very much larger and more bulky than the Italians I have. The Italian drones went through excluder to supers while young. At the Flower Show held recently in Ennis by the Clare County Horticultural Society, there were general complaints by honey exhibitors of bees having done badly; very little honey and no swarms. This, in my opinion, was due to the extraordinary fine weather which commenced on April 18, the bees in a short time filling up the brood-combs with honey and depriving the queen of laying room, so that the regular honey flow about the middle of May found those who did not attend to their hives, with very weak stocks to collect the harvest. Could you give, in your next issue, the address of a queen breeder in Carniola, and what language communications should be written in?—WM. HALPIN, Jun., *Newmarket-on-Fergus, August* 13.

[Reply to query *re* Carniolans will appear next week.—EDS.]

EXPERTS AND FOUL BROOD PREVENTIVES.

[2599.] Your correspondent (2588), p. 326, opens his letter with this remark, "As there are only two first-class experts in the L. & C.B.K.A.—of whom I happen to be one." This statement is misleading. The gentleman, whose name appears at foot of letter quoted from, is no longer employed by our Association, and has no official connection with it whatever.

As to the paragraph in my communication of the 30th ult., being in possession of certain information, and being also the sworn enemy of foul brood and pledged to wage war against this ravaging foe, I deemed it my duty to ask your opinion on the matter. I carefully avoided all reference to any county or individual, as I was and am not desirous that any individual should suffer the "extreme penalty of the law," but hoped that the warning conveyed in my letter and your footnote appended thereto would serve. I cannot oblige your correspondent by withdrawing one iota of the paragraph, seeing that to do so would be to cast imputations on the truthfulness of my informant, whose veracity is undoubted. Nor can I gratify his curiosity by revealing the name that was given me, as this would be a grave breach of confidence.—FREDERICK H. TAYLOR, *Birch Fold Cottage, Fallowfield, near Manchester, August* 14.

HALF RATES FOR HONEY BY RAIL.

In response to inquiries for particulars as to half rates mentioned on page 267 of our issue for July 2, we append particulars as given by the South-Eastern Railway Company, which

may be taken as those now adopted by all Companies offering the "half rate" at owner's risk. The official notice reads as under :—

The South-Eastern Railway Company has adopted the following reduced scale of rates for the conveyance of small consignments of farm produce, such as fresh butter, eggs, cream and cream cheese, fresh meat, dead poultry, dead rabbits, fruit (outdoor), mushrooms, and honey, at owner's risk, by passenger train between any two stations on the line.

Distances not exceeding	Weight not Exceeding									
	14lb	21lb	28lb	32lb	36lb	40lb	44lb	48lb	52lb	56lb
30 miles..	-/6	-/6	-/6	-/6	-/6	-/6	-/6	-/6	-/7	-/7
31 to 50 miles ..	-/6	-/6	-/7	-/8	-/9	-/10	-/11	1/-	1/1	1/2
51 to 100 miles ..	-/7	-/9	-/11	1/-	1/2	1/3	1/5	1/6	1/8	1/9
Above 100 miles ..	-/10	1/-	1/2	1/4	1/6	1/8	1/10	2/-	2/2	2/4

The above rates include delivery within the usual radius where that service is performed by the Company, minimum as for 14 lb.; no less charge than 6d.

Live poultry and pigeons (for consumption), vegetables (other than hot-house), and cheese are carried at the reduced scale, with a minimum charge as for 56 lb.

ADULTERATED HONEY AT MAERDY.

A correspondent sends a cutting from the *Glamorgan Free Press*, Pontypridd, which reads as follows :—

"Mr. Thomas Roberts, grocer, Maerdy, was summoned under the Food and Drugs Act at the Pontypridd Petty Sessions on Wednesday for selling honey in which was mixed fifty per cent. of dextrose, or starch-sugar, a substance of the value of 4d. per pound, as compared with 1s. per pound, the price of pure honey. The sample was taken by Mr. Superintendent Jones, D.C.C., on June 30, and he now produced the analyst's certificate.

"The defendant said the honey in question had been in stock a considerable time, having been bought with the goods from his mother when she gave up the business. He believed it to be of pure quality.

"Dr. Hunter, who was on the Bench, remarked that patients were often advised to take honey for certain complaints, and added sugar, such as was found in the present sample, had a very injurious effect upon them.

"A fine of £3. 11s. 6d., including costs, was imposed."

DAIRYING AND BEE-KEEPING IN SOUTH AUSTRALIA.

The Board of Agriculture have recently received a copy of the annual report on the work and proceedings of the Agricultural Bureau of South Australia for the year 1893-94.

In respect of bee-keeping, it is stated that the expectations which had been entertained that a market would soon be opened in England for the surplus honey products of the colony have not been fulfilled. It seems that many inquiries have been made by travellers for British provision merchants, but they cannot be referred to any firm in South Australia which will undertake to receive, grade, and consign honey and wax; and the output at present is not sufficiently large to tempt any English firm to establish a depôt for these products alone. The total yearly production of honey in South Australia is estimated at about 600 tons, and, at the date of the report, it was calculated that probably 200 tons were held in stock, which would be gladly sold at 2¼d. to 2½d. per lb., free on board at Port Adelaide. It is believed that with caution in grading, and proper treatment in the markets, there would be an excellent outlet for South Australian honey in Great Britain.

Queries and Replies.

[1531.] *Ligurian Queen Cast Out.*—Enclosed queen is one I bought and had sent direct from Italy a fortnight ago. I introduced her safely, and on Saturday thought I would have a look to see how she was progressing, and on examining the combs was much surprised to find neither brood nor eggs. I saw the queen on the combs, and she looked all right then, but about two hours afterwards I found her thrown out on the ground. After warming I got her round and put her back on the top of the frames, but the bees again threw her out, this time almost dead, and in spite of all my efforts at restoration she soon died. I cannot understand why she was cast out after fourteen days unless I hurt her badly whilst examining the hive. 1. I should be much obliged if you can say if she is a fertilised queen, because if not, I think it unfair to advertise fertile queens and then to send out virgins, especially so late in the season when there are no drones flying here? 2. I think the fact of her not having laid any eggs at all proves her to be a virgin, does it not?—UNFORTUNATE, *Manchester*.

REPLY.—1. We fear the queen has received some internal injury during her first introduction to the stock. 2. By no means. In fact, any injury to the genital organs might easily stop egg-laying entirely in a hitherto prolific queen.

Bee Shows to Come.

August 22, at Royton, Lancashire.—The Royton Agricultural Society, in connection with the Manchester and District Bee-keepers' Association. Entries closed.

August 29.—In the Corn Exchange. Biggar Bee-keepers' Association. Annual exhibition of bees, honey, wax, &c. Thirteen classes open to all. Entries close August 25. Schedules from Wm. Ormiston, sec., Biggar, N.B.

August 29.—At Tideswell, in connection with the Show of the Floral and Horticultural Society. Open to members of the D.B.K.A. Entries received up to day of Show. J. T. Jackson, hon. sec., Tideswell, via Brixton.

September 2 and 3.—At Birkenhead. In connection with the Wirral and Birkenhead Agricultural Society. Show of hives and honey. The bee-tent of the L. and C.B.K.A. will be on the ground and lectures given each day.

September 5. — Lancashire and Cheshire B.K.A., in connection with Bramhall and Woodford Horticultural Society. Annual show of honey at Bramhall Hall. Open to district and members of the L. and C. B. K. Association only. Schedules from secretary. J. Bell, Davenport, Stockport.

September 8. — At Moorgreen. Notts B.K.A., in connection with the Greasley, Selston, and Eastwood Agricultural Society. Open class for a 1 lb. bottle of honey. Schedules ready. Apply Geo. Hayes, Mona-st., Beeston, Notts. Entries close August 29.

September 9 and 10.—At Derby. In connection with the annual show of the Derbyshire Agricultural Society. Fifteenth Annual Show of the D.B.K.A. as above. Liberal prizes for bees, hives, and honey. Six of the eighteen classes are open to all comers. Schedules from F. Walker, Cattle Market, Derby.

September 16.—Wotton-under-Edge B.K.A. Annual Show of Honey. In the Church Mill. Schedules from E. W. Read, hon. sec., Wotton-under-Edge.

September 26.—At the Corn Exchange, Jedburgh. Annual show of Roxburghshire B.K.A. Twenty-eight classes, all open to members free of entry-fee. Entries close September 22. Thos. Clark, secretary, Pleasants Schoolhouse, Jedburgh, N.B.

October 20, 21, 22, and 23, at the Royal Agricultural Hall, Islington, London, N. Twenty-first Annual Show of the British Dairy Farmers' Association. Eight classes for honey, with liberal prize money, and a class for interesting and instructive exhibits connected with bee culture. Entries close September 21. Schedules from the Secretary, Wm. C. Young, 12, Hanover-square, London.

NURSE BEES.

There is quite a difference between old field bees and bees which come out of winter quarters, as regards their making good nurse bees. The vitality, and different parts or offices performed by the bee, become exhausted, or change in accord with the amount of labour performed, not in accord with the number of days which go by; hence a bee which has seen five months of winter, where a colony has wintered to the best advantage, may be no older in reality than the same bee would be at from ten to fifteen days were the date of the season June or July. All know that bees which have been wintered over become good nurse-bees, while nearly all admit that a bee which has been in the field as a worker for two weeks is almost wholly incapacitated for such work; and, if forced to nurse the larvæ, does it as a "makeshift." I have found that a colony losing its queen soon after coming through the winter will rear a very fair queen, though I have never found them to be among the best; but in order to raise such a fair queen it seems necessary that the nurse-bees should be feeding some larval bees before they set about raising a queen. I have often taken a colony of queenless and broodless bees in the spring, and built them up in this way.

As soon as possible after spring opens, give them a frame of eggs and larvæ, and in eight or ten days open the hive and break off all queen-cells started, giving brood to them once a week if possible, till plenty of young bees hatch from the first brood given, when I give a frame of choice brood and allow them to raise a queen from the same. In this way I have succeeded in getting queens that would prove of value, and saved a colony which otherwise would have been lost. Had I allowed them to perfect a queen from the brood first given, she would have been a makeshift queen, and, in all probability, a drone-layer, as she would have been perfected long before there would have been any drones flying. I firmly hold this belief, coming from long experience along the queen-rearing line, that good queens can not be reared except where there are nurse-bees in the hive, feeding larvæ at the time they are required to rear queens. To force any bee, which is not in the habit of preparing chyme, to immediately prepare chyme for a larva intended for a queen, is out of the ordinary course of nature, and the result can be only an apology for the better article. But here is a point I have never seen mentioned, viz., that, so far as my experience goes, the bees, when in the proper shape as to nurse bees, can rear a really *good prolific* queen from the progeny of this makeshift queen, so that the colony will be a thriving one with a queen reared by supersedure from her brood. In fact, I have often found such queens to equal those reared from the very best of mothers, although I do not advise using such as mothers for a whole apiary.

REPLACING AGED QUEENS.

First as to the when: This can be done at any time; but I find that the bees supersede more queens just after the main honey-flow for the season is over than at any other time of the year; consequently, where I wish to supersede queens for any reason I do it just after the basswood blossoms drop off, as the most of the honey in this locality comes from basswood. Now as to the how: Unless a

change in variety of bees is desired, I would advise the beginner to leave this matter of supersedure of queens to the bees, as they will make fewer mistakes, if this matter is left to them, than the smartest bee-keeper in the land —especially where there is any Italian blood in the bees. But if we wish to change the breed of bees, then, of course, the apiarist must do it. The plan I use most, and like best, is to start queen-cells just before the basswood honey-yield closes, when the bees are in the best possible shape to raise extra good queens; then, two days before these cells are about to hatch, I go to the colonies having queens which I wish to supersede, and hunt out the queens and kill them. Two days later the nearly mature cells are placed in queen-cell protectors and placed in these colonies; and my experience has been that, in nineteen cases out of twenty, young, thrifty, vigorous queens will be found laying in colonies thus treated, fifteen days later. If we do not wish to raise our own queens, we can send away for them; and to make sure that none shall be killed in introducing (and as a few days without a laying queen in any colony is of little consequence at this time of the year), the old queen should be killed nine days before we expect the new queens to arrive. When they arrive, open the hive and cut off all queen-cells, when the queen is to be introduced by letting the bees eat the candy away till the queen is liberated, according to instructions generally accompanying the queen.

Another way, which is usually successful, is to remove the old queen in the forenoon of a pleasant day, and at night, after the bees have all returned home, give them a little smoke; and when they are filled with honey allow the new queen to run in at the entrance. Do not open the hive for four or five days, and you will rarely fail.—G. M. DOOLITTLE, in *Gleanings*.

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

W. SHEPHERD (Tadcaster).—Messrs. Jules Lang & Co., 2, Charterhouse-street, Holborn Circus, are wholesale dealers in honey jars. Write them for list of prices.

E. J. BROUGH (Thornton Heath).—*Sugar for Bees.*—Any pure cane sugar is suitable for bee-food. If, therefore, the kind named is guaranteed as such, you need have no hesitation in using it.

H. G. LATTEN (Croydon).—*Dark Honey.*—The prevalence of dark honey this year is referred to on front page of the present issue. The sample sent is neither better nor worse than many we have received. For household use it is quite good, so long as its flavor is not objected to.

WM. BRIGGS (Abinger) and H. NEVE (Heathfield).—No. 2 is the true "ling" or honey heather in Mr. Briggs's samples, No. 1 in those of Mr. Neve.

F. W. OSMAN (Wells).—*Honey Samples.*—(a) only medium, (b) slightly better in flavour than (a), but neither samples are above third or fourth rate in quality.

M. E. WILLIAMS (Essex).—*Cleaning up Wet Combs after Extracting.*—If the field where it is proposed to put the wet combs is fifty or more yards away from the hives, they may be cleaned up with little or no disturbance; but we much prefer to have it done on the hives, putting on the combs after dusk.

SAM (Dover).—If the new combs are sprayed with the solution named on page 163 of "Guide Book" (14th edition), they may be again used with safety.

PUZZLED (Aspatria).—No sign of disease in comb sent. Young bees have been hatching out freely since comb reached us.

D. JOHN (Swansea).—*Honey Samples.*—Both samples being marked "No. 2" we cannot do more than say the light-coloured sample is a nice honey, better than the darker one, which latter is, however, fair in quality.

Special Prepaid Advertisements.

Situations, Publications, Bee Plants, &c. — Up to Twelve words, Sixpence; for every additional Three words or under, One Penny.

BEES WANTED, free from Foul Brood. Must be cheap. GRIMBLY, Minster, Thanet.

TEN DOZEN Fine SECTIONS. Offers to CATERER, Model Farm, Shirburn, Tetsworth, Oxon. N 9

HEALTHY DRIVEN BEES, 1s. 3d. lb. in 5-lb. lots. Boxes to be returned. E. LONG, Fulbourn, Cambs.

TWENTIETH YEAR.—Pure Black '96 Tested Queen, 3s. 6d. delivered; with Swarm, 5s. on rail. ALSFORD, Expert, Blandford. M 85

EXTRACTED ENGLISH HONEY, in ¼ cwts., 6½d. per lb.; tins free, sample 2d. Deposit. DUTTON, Terling Witham, Essex. N 10

WILL EXCHANGE Wheat Mill (will also grind coffee) for Sections of HONEY. Care of JACK, 26, Pall Mall, Manchester. N 12

YOUNG CARNIOLAN HYBRID QUEENS, 3s. 6d., with Nuclei, 10s. FRANK REED, Portslade, Sussex.

WILL EXCHANGE White Leghorns (four hens and cockerel), Wades, Tathams, strains worth 15s., for two 5-lb. lots of Driven Bees. Must be healthy. BARKER, Winton, Kirkby Stephen. N 7

Editorial, Notices, &c.

BEE ASSOCIATIONS

AND THEIR SUCCESSFUL MANAGEMENT.

It becomes more and more evident that the success, or the want of it, attending the working of the great majority of associations established for the promotion of the bee-industry depends almost entirely upon the few individuals who generally constitute the working committee. We use the word "working" in its full sense, and quite apart from the kind of work which consists in doing nothing.

Given a secretary—made of the right stuff, one moreover who undertakes the task for love of the work—and a couple of clear-headed committee-men, constituted like himself, who act harmoniously, yet with singleness of purpose; given, we say, these few moving spirits, and how usual a thing it is to find the association under their control successful! On the other hand—well, we need not particularise, but somehow, with no better materials, or more advantageous surroundings, the result in too many cases is that things go slow, there is no "push" about the association, and more or less of failure is attributed to "lack of interest," or "too few bee-keepers," "novelty worn off," "poor district for bees," and such like.

Without in the slightest degree casting any reflection, or indeed knowing anything of the case mentioned below, we are led to these reflections by the receipt of a copy of the *Belfast News Letter* of the 20th inst., in which appears a letter which explains itself. We rather naturally infer that the paper is sent to us by the writer of the communication referred to, who no doubt feels—as we do ourselves—very keen regret at the winding up of an association which had for its object the promotion of bee-keeping, and has for some years past done more or less useful work in the cause, but which now collapses, we suppose, for the reasons given.

The letter reads as under:—

"Sir,—Mr. W. J. Anderson, The Ards, Caledon, sent me a circular with above heading, the purport of the document being the winding up of the Ulster Bee-keepers' Association. Not being a member I have no right to dispute the proposal, but of the two reasons given for 'winding-up' I dispute one of them. It is stated that 'there are apparently a small number of bee-keepers in Ulster.' I am sure that the committee fully believe in the truth of the statement, but if they were more conversant with the 'bee-keepers of Ulster' they would not have put that in print, or given it as a reason for throwing up the sponge in a good cause. I have been working frame-hives for eighteen years, and during that time have had 'ups' as well as 'downs,' but the former more than outweighed the latter, and upon taking a retrospect of my bee years I would, if I had the chance, travel the same over again. We do have an annual show in Armagh in July, and it is always a success. A large tent is set apart for honey and butter, and the tables are covered with exhibits. My friend, Mr. Anderson, took several prizes this year, and there were quite a number of entries. Being appointed steward of the honey tent, I had but one entry, which was one of 140 lb., but I sold every section and bottle of this at 10d. per lb. During the last few years I have induced several to follow my steps, and seven farmers about here are doing so successfully. One farmer to whom I have spoken frequently, who has twenty skeps, but who does not smother bees, or even sell honey, has started with frame-hives, and I hope to have him soon upon the honey-making path. It is, I suppose, quite true that little, if any, interest has been taken in this Association, but what did the committee or members ever do to let beemen in the country know that they were alive? What have they done to promote apiculture? I am not saying this by way of complaint, but when use is made of a high-sounding name, and nothing more is done, and when the result of this do-nothing policy is fruitless, besides being told that we 'bee-men are small in number,' I claim the right to make moderate use of my string. But the committee (not one of whom I know even by name) will, I hope, understand that I write in the most friendly spirit. There are hundreds of tons of splendid honey going to waste every year in Ulster, and if farmers were educated into the way of gathering this harvest, the men who would do this *con amore* would deserve more than a leather medal. Farmers, I admit, are very slow in adopting any industry introduced for their benefit, especially the bee industry, where they would have to spend a few shillings in appliances, and have little faith in results. I hope, however, that some of the energy of the present Government will be devoted to an Irish industry which will pay the rent. Our money is going for one thing or another into the hands of the foreigner, and we do not seem to see that, for all our financial woes, the remedy is in our own hands. Every month the BRITISH BEE JOURNAL publishes the value of honey imported from abroad, and the annual sum paid thus comes to about £70,000 for the

United Kingdom, not one penny of which should have left this country. This Association, if it had energy, time, money, and men, could have done a vast amount of good, and with the same materials it can yet do good. There is a vast field before it, and the harvest truly is great. Why, then, 'dissolve'? Rather let them review the past, and after such an examination confess that much has been neglected, and resolve that, having put the hand to the plough, they will not turn back. If they do this, and take active steps to 'spread the light,' they will reap the reward. —I am, sir, yours, T. G. PEEL, *Armagh, August* 18."

Whether Mr. Peel's letter will have any effect so far as causing a reconsideration of the dissolution proposals, we, of course, are unable to say, but it would afford that gentleman an excellent opportunity of trying the effect of putting his own hand to the plough; and, if supported by a few public-spirited bee-keepers, we might see a repetition of what has, in several instances, occurred in this country, viz., a thriving and successful association built on the remains of what could not be claimed as either one or the other.

BRITISH BEE-KEEPERS' ASSOCIATION.

A meeting of the representatives of the Northern District was held in the Lecture Tent at Shrewsbury Honey Show, on Wednesday, August 19th.

Miss Eyton on being voted to the chair, extended a welcome to the Committee on behalf of the Shropshire Bee-Keepers' Association.

The Secretary made a statement with regard to the work of the Sub-Committee on "Foul Brood," and read a letter from Mr. W. Lees McClure on the subject, enclosing statistics in respect to the existence of the bee pest in various counties. The list not being yet complete, the co-operation of bee-keepers and county secretaries was asked for in order that the desired information may be in readiness at the time of the introduction of the measure into the House of Lords early next session.

Mr. Scattergood expressed satisfaction at the advance being made in foul-brood legislation.

Mr. Garrett said he had been applied to by the County Council of Kent for information as to the prevalence of bee pest in his county, and he had no doubt that the particulars he was able to supply could be largely augmented by the Kent B. K. Association. Mr. Carr stated that this was so, as it was within his knowledge that the collection of statistics in Kent had been most thorough in its character.

Miss Eyton suggested that in addition to County Councils, the county secretaries should in future be communicated with on all matters relating to foul brood, as much information not otherwise obtainable might be furnished by these officials. The suggestion was endorsed by those present.

In response to an inquiry, a copy of the improved classification for honey at the ensuing dairy show was placed before the meeting, and it was generally agreed that the extension was such as would be welcomed by all intending exhibitors.

A discussion ensued relative to a proposal for including in the Bee and Honey Department at the Manchester meeting of the Royal Agricultural Society in 1897 a County Honey Trophy Competition, for which good prizes are likely to be offered, provided sufficient support in the way of entries is promised by affiliated associations. The proposal was well received, and a suggestion was made that the quantity of honey to be exhibited in each trophy should be limited to about 300 lb. As honey of 1896 would necessarily figure largely in the competition, and would have to be "held over" by its owners for the purposes of the exhibition, such limitation was considered eminently desirable.

A vote of thanks to Miss Eyton for presiding terminated the proceedings.

SHROPSHIRE B.K.A.

ANNUAL SHOW AND HONEY FAIR AT SHREWSBURY.

The above important honey show was held as usual in connection with the Horticultural Society's great fête in the Quarry on the 19th and 20th. Notwithstanding the adverse weather, an enormous number of visitors attended. So far as the Bee-show and Honey Fair—which department was, as heretofore, under the management of the S.B.K.A.—the collection of honey was inferior to that shown in previous years, the season in the Shrewsbury district having been somewhat unfavourable. The falling off in quality was especially noticeable with regard to colour of the honey. The cottagers' exhibits were perhaps the strongest section, and this class was equal if not superior to previous years. One of the best classes was the collections of bee flowers, some of which were very artistically arranged. It would, however, have added to the value for educational purposes had the exhibitors appended the names of the flowers, and we hope to see this done at the next show. The trophy class attracted some good displays, and the quality of the exhibits was as good as at any previous show, but this competition was open to all counties. Mr. Meadows took first prize with an excellent collection.

Miss M. E. Eyton, the hon. sec. and treasurer of the Association, was as usual most indefatigable in promoting the success of the honey section of the show, efficient help being rendered by several members of the committee.

At intervals during the afternoon Mr. Meadows gave an interesting lecture on bee-keeping, and was able to impart a good deal of information to those interested in the subject—a very numerous body, judging by the many visitors to the tent.

The judges were Mr. W. Broughton Carr, of London; Mr. Jesse Garratt, Meopham, Kent; and the Rev. T. J. Evans, Hargrave Vicarage, Chester, who made the following awards:—

HONEY CLASSES (OPEN).

24 1-*lb. Sections.* — 1st, S. Cartwright, Shrewsbury; 2nd, H. M. Bryans, Malpas, Cheshire.

12 1-*lb. Sections of Comb Honey.*—1st, not awarded; 2nd, A. Hamer, Llanarthney.

24 1-*lb. Jars Extracted Honey.*—1st, Edward Clowes, Stone; 2nd, M. Horton, Much Wenlock.

12 1-*lb. Jars Extracted Honey.*—1st, H. W. Seymour, Henley-on-Thames; 2nd, E. W. Jackson, Wilton, Staffs.; h. c, Mrs. E. Jones, Ellesmere; c., F. W. Dunsford, Frodsham.

24 1-*lb. Jars Extracted Granulated Honey.*—1st, H. Morris, Leebotwood.

Extracted Honey from Different Flowers.—1st, A. Beale, Meole Brace; 2nd, A. W. Rollins, Stourbridge.

24 1-*lb. Sections Jars* (Members).—1st, Phil Jones, Chelmarsh Valley; 2nd, F. W. Horton, Much Wenlock.

12 1-*lb. Sections.*—1st, F. W. Horton; 2nd, Phil Jones; c. H. M. Bryans.

1 1-*lb. Section.*—1st, A. Hamer; 2nd, Phil Jones.

24 1-*lb. Jars Extracted Honey.*—1st, F. W. Horton; 2nd, Mr. Cartwright, Shawbury.

12 1-*lb. Ditto.*—1st, Mr. Brocklehurst, Ludlow; 2nd, Mr. Norris; 3rd, P. Graham, Montford.

24 *lb. Dark Extracted Honey.*—1st, Mr. Clark, Chyknell; 2nd, Mr. Oakes, Broseley; h.c., A. Beale.

Novelty in Honey or Wax.—1st, Mr. Hill, Donnington; h.c., John Bradley, Stoney Stretton.

ARTISANS' CLASSES.

24 1-*lb. Sections.*—1st, Phil Jones; 2nd, A. Hamer.

12 1-*lb. Sections*—1st, Phil Jones; 2nd, P. Graham; h.c., Mr. Hill.

24 *lb. Extracted Honey.*—1st, P. Graham; 2nd, Phil Jones.

Comb Honey in any Kind of Super.—1st, Mr. Hill.

COTTAGERS' CLASSES.

12 *lb. Sections.*—1st, J. T. Croxton, Church Stretton; 2nd, Mr. Hammonds, Hope Bowdler.

Best Exhibition of 12 lb. Run Honey.—1st, Geo. Croxton, Yorton; 2nd, Mr. Ward, Shineton, Cressage.

Best Six Sections of Comb Honey.—1st, J. T. Croxton; 2nd, Mr. Hammonds.

6 *lb. Extracted Honey.*—1st, Geo. Croxton; 2nd, J. T. Croxton; 3rd, Mr. Ward.

1 *lb. Jar Extracted Honey.* — 1st, George Croxton; 2nd, Mr. Hammonds.

Honey Cake.—1st, Mrs. Geo. Lloyd.

Best 1 *lb. Section.*—1st, J. T. Croxton; 2nd, Mr. Hammonds.

Bee Flowers.—1st, George Lloyd.

HONEY TROPHY (Open). — 1st, W. P. Meadows; 2nd, Mr. Bradley; 3rd, A. W. Rollins; c. Mr. Pritchard, Bucknell.

HIVES AND APPLIANCES (OPEN).

Frame-hive (price not to exceed 15s., complete).—1st, Lanaway & Son, Redhill; 2nd, W. P. Meadows.; h.c., G. H. Varty.

Frame-hive (price unlimited).—1st, W. P. Meadows; 2nd, G. H. Varty; h.c., Lanaway & Son.

Best Collection of Appliances.—1st, W. P. Meadows; 2nd, G. H. Varty; h.c., T. Whittingham.

New Invention.—1st, W. P. Meadows; h.c., Lanaway & Son, for two exhibits; c., T. Whittingham.

1-*lb. Stock Foundation.*—Equal 1st, Messrs. Lanaway and Beale; v.h.c., W. P. Meadows.

1-*lb. Super Foundation.*—Equal 1st, bronze medal, Messrs. Lanaway and Meadows; h c., T. Whittingham; c., Mr. Beale.

Soft Candy.—1st, Lanaway & Son.

Honey Beverage.—1st, Mr. Beale; c. Mr. Seymour.

Whole Fruit in Honey.—1st, Mrs. George Lloyd; h. c. T. Whittingham.

Honey Cake.—1st, T. Whittingham.

Beeswax (Salop only).—1st, Edward Oakes; h. c., Mr. Horton.

Honey Vinegar.—1st, T. Whittingham.

Bee Flowers.—1st, J. Bradley; 2nd, Mr. Beale; 3rd, George Lloyd.

BEES, &c.

Pure English Bees with Queen.—1st, Mr. Beale; 2nd, Mr. Hill.

Special Prizes to Winners of First Prizes in Honey Classes.—1st, Phil Jones; 2nd, J. T. Croxton; 3rd, G. Croxton.

The first special prize was taken by an artizan member, and the 2nd and 3rd by cottage members.

ROYAL LANCASHIRE AGRICULTURAL SHOW.

The above show was held at Southport on July 31 and August 1 and 3, in fine weather. Owing to the combination of favourable conditions under which the show was held, including Bank Holiday on the 3rd, the attendance was, we believe, a record one. The honey department, though well filled in some classes, was scarcely up to the usual standard as far as number of entries. The quality of the exhibits, however, were excellent, some very fine specimens being staged. Mr. P. Scattergood, jun., Stapleford, Notts, staged a collection of articles of food, &c., in which bee-products figured as ingredients,

and Mr. F. H. Taylor, Fallowfield, Manchester, a collection of various kinds of bees, &c. (in spirits) an interesting specimen of comb showing the circular formation of cells when not compressed into the hexagon, with other interesting specimens. Mr. Geo. Rose, of Liverpool and Preston, staged an extensive and excellent collection of hives, appliances, &c., not for competition.

The Lancashire and Cheshire Association bee-tent was on the ground, lectures being given each day by Dr. E. Jones and Mr. F. H. Taylor, very large and interested audiences gathering round the tent on each occasion to listen to the lectures. From the interest exhibited in every minor detail explained after the lectures, it would appear that bee-keeping is decidedly on the increase in the County Palatine. The Rev. J. F. Buckler, of Bidston, Cheshire, as judge, made the following awards :—

Twelve 1-lb. Sections (open).—1st, Wm. Woodley, Newbury, Berks ; 2nd, John Stone, Cubley, Derby ; 3rd, W. H. Woods, St. Ives, Hunts.

Twelve 1-lb. Jars Extracted Honey (open).—1st, W. H. Woods ; 2nd, Wm. Woodley ; 3rd, B. W. Crisp, Henley-on-Thames ; r., Jas. Cragg, Gt. Eccleston.

Twelve 1-lb. Jars Extracted Honey (county only).—1st, Wm. Forrester, Huyton ; 2nd, Jas. Cragg ; 3rd, Dr. B. E. Jones, Freckleton, near Preston ; c., Robt. Rymer, Hesketh Bank.

Twelve 1-lb. Sections (county only).—1st, Dr. B. E. Jones ; 2nd, Chas. Ashton, Orrell, Seaforth.

Interesting Instructive Exhibit connected with Bee-Culture.—P. Scattergood, jun., Stapleford, Notts, and F. H. Taylor, Fallowfield, Manchester—equal first.—(*Communicated.*)

SHOW AT STRATHPEFFER, N.B.

The annual exhibition of the Strathpeffer and District Horticultural and Bee-keeping Society was held in the Pavilion, Strathpeffer, on the 7th inst., and while the show generally was a good one, the honey and bee-keeping section was to many its chief feature. In fact, the display in this particular department was larger and better than ever before, the season having been a very favourable and lucrative one for honey gathering. All the exhibits were good, Mr. Paterson's especially so.

Mr. Reid, Marybank, judged the bee and honey exhibits, and made the following awards :—

Display of Honey from One Apiary.—1st, A. Paterson, Scotsburn ; 2nd, D. Macvenish, Ferry Brae, Beauly.

Honey in Sections.—1st, A. Paterson.

Design in Honey Comb.—A. Paterson.

Straw Super.—1st, D. Macvenish ; 2nd, M. Mackay, Knockfarrel.

Super in Wood or Glass—1st, D. Macvenish ; 2nd, A. Paterson.

Twelve 1-lb. Sections (local).—1st, D. Munro, Dingwall; 2nd, John Matheson, Contin ; 3rd, M. Mackay.

Extracted Honey in 1-lb. or 2-lb. Jars.—1st, A. Paterson ; 2nd, D. Macvenish.

Beeswax.—A. Paterson.

Observatory Hive, Stocked with Bees.—1st, H. Fraser, Coulwood ; 2nd, A. Paterson.

Collection of Humble Bees.—1st, A. Paterson ; 2nd, D. Clarke, Strathpeffer.

Collection of Bee Appliances.—D. Macvenish.—(*Communicated.*)

HONEY SHOW AT MARLOW.

A most successful show of honey and appliances was held at Marlow, at Court Gardens, by permission of R. Griffin, Esq., in conjunction with the Marlow Horticultural Society, on August 19. This is the first special show of honey and appliances held in the Marlow district. The Rev. S. R. Wilkinson deserves the greatest praise for his untiring energy in the cause of modern bee-keeping. The schedule was compiled and the show promoted and carried out by him. The judges were Mr. W. S. Darby, hon. sec. Windsor district of the Berks Association, and Mr. Wm. Carter, of the Berks County Committee, whose awards were as follows :—

Six 1-lb. Sections (local classes).—1st, J. Carter ; 2nd, J. Maskell.

Six 1-lb. Jars Extracted Honey.—1st, Wm. Maskell ; 2nd, C. Waikling ; 3rd, H. Sawyer.

Bell Glass Super.—1st, Levi Silvey ; 2nd, T. Swadling ; 3rd, Wm. Maskell.

OPEN CLASSES.

Collection of Appliances.—1st, Jas. Lee & Sons, London ; 2nd, Webb & Brunsdon, Maidenhead.

Best Frame Hive at 10s.—1st, Jas. Lee & Son ; 2nd, Webb & Brunsdon.

Observatory Hive.—1st, George Sawyer.

Twelve 1-lb. Sections.—1st, W. H. Woods ; 2nd, Geo. Sawyer.

Six 1-lb. Sections.—1st, W. H. Woods ; 2nd, Geo. Sawyer.

Twelve 1-lb. Jars Extracted Honey.—1st, W. H. Woods ; 2nd, Geo. Sawyer.

Six 1-lb. Jars Extracted Honey.—1st, W. H. Woods ; 2nd, Geo. Sawyer.

We are glad to learn the Berks County Council have resolved that the Marlow district in future shall enjoy all the privileges of the Berks Association, so that we may now look forward to that strong support in the cause of bee-keeping which characterised this district when they were connected with the old Association of Berks and Bucks.—(*Communicated.*)

SHOW AT LYTHAM (LANCS.).

The first annual show of the Lytham Dog, Poultry, and Pigeon Society was held on August 15 in Lytham Park—honey, butter,

cheese, eggs, &c., being included in the schedule. As the "Fylde" is known to be a good honey-producing district, the honey department will most probably be a permanent and successful item in future shows. For a first attempt the entries were very satisfactory, and many of the specimens staged of the first quality. The bee-tent of the Lancashire and Cheshire B.K.A. was present, and a lecture and demonstration given by Dr. B. E. Jones, the association lecturer. The day being fine, a large number of visitors were present, and a good audience collected around the bee-tent. The show as a whole was a decided success, and no doubt exists as to it becoming an annual affair. This year the classes were all open, but local classes will in all probability be added in future.

Dr. B. E. Jones, of Freckleton, near Preston, judged the honey department, the awards being as follows :—

Six 1-lb. Sections.—1st, John Roe, Poulton-le-Fylde ; 2nd, Richard Wharton, Treckleton ; 3rd, J. and W. Herrod, Sutton-on-Trent.

Six 1-lb. Jars Extracted Honey.—1st, J. and W. Herrod, Newark ; 2nd, A. Thomas, Ince, near Chester ; 3rd, John Roe.

Special prize, silver medal, given for the best exhibit staged, John Roe, for his six sections.—(*Communicated.*)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

*** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

A CLASSIC COLONY OF BEES.

[2600.] At Pompeii, a day or two ago, while examining the ruins of the public baths, I noticed a number of bees flying across one of the open courts, and traced them to their abode. The entrance doorway had recently had a stout wooden lintel put in to support the ruined masonry above. This the bees used for an alighting board, and had established themselves in the wall, just at the corner, not 8 ft. from the ground.

It struck me as being a curious spot to select, right in the centre of the city, with at least half a mile of stones, &c., in every direction, with not a sign of vegetation or water nearer. The spot chosen is also one of the most frequented points of interest, while the doorway is one through which almost every visitor passes.

From the guide's behaviour and his horror when I made a close inspection, I gathered that the bees had already given practical proof of their existence to inquisitive globe-trotters and tourists bent on seeing everything—even the Pompeiian bee-hive.—MALTA, *August* 18.

EXHIBITORS' DIFFICULTIES.

WHAT IS A NON-SECTIONAL SUPER ?

[2601.] Would you kindly give your opinion in the following case :—At our flower show, in the honey exhibits there was a class "for the best super of honey, not sectional." For this I showed a bar-super made of glass, holding six bars. The bars of honey were fastened to the glass at each side, and were not encased in wood, which would have constituted it a bar-framed super. Would you call this a sectional super ?

In the same class there was a similar made glass super, but without bars, having a piece of wood on the top, on which foundation was fixed, and the comb worked in frames. I was awarded first prize, but my right to it was disputed, as mine was considered to be a sectional super. Would you define mine as sectional as compared with the above ? Your opinion will greatly oblige.—WILLIAM ALLEN, M.B. and C.M., *Hawkshead, August* 24.

[The question of what constitutes a "non-sectional" super so frequently arouses contention among exhibitors that it should be very clearly defined in show schedules ; and, but for the fact that such supers are rapidly and justly disappearing from show-tables (they have already "gone" from all important shows), it might be worth more attention. The case of our correspondent, however, is interesting as showing how opinions vary. But we have no hesitation in upholding the judges' award. In fact, of the two supers we consider the one in which all the combs—though on separate bars—were attached to the glass, and, consequently, inseparable without cutting the comb and causing the honey to run, is more truly non-sectional than that in which the combs are built in frames, capable of being parted without any fracture or breakage of the combs. Cutting would be required in either case in order to make the super "sectional." And it is far less damaging to the contents to cut wood than combs.—EDS.]

ODDMENTS.

QUEEN-REARING BY LEARNERS.

[2602.] I was much interested in "Learner's" letter on queen-rearing (p. 327), as my experience is similar. I made my first essay in this fascinating branch of the art of bee-keeping in the autumn of '95, with fairly good results. This year I began raising queens in July, and my first difficulty was to get eggs

laid. I inserted a frame with 2-in. starter in a very strong stock of Italio-Carniolans, having a fine prolific queen of 1895; but although the frame remained for a fortnight, her majesty carefully avoided it, so I got no eggs from her; and in two other ten-frame hives I had similar experience, while in nuclei I obtained eggs easily. In two batches of queens the cells were small; but while the Italian (hybrid) queens were a fair size, the black ones were perceptibly smaller. In one case, however, the queen is much larger since mating. I did not feed my queen-rearing stocks. Another curious point was that my black queens hatched out in thirteen and fourteen days.

I scarcely ever use a smoker. A little carboline pomade on my hands and gentle movements generally prevent stings, and I do not mind one or two. It is much easier to find queens without smoke, and, although virgins are supposed to be extra difficult to find, I can generally succeed even with them, though, as a rule, they are very nervous. If, on looking closely over a comb, one bee is seen rushing about and trying to hide, that is generally "her majesty" in my experience.

What a nuisance propolis is! The man who will invent a preventive will deserve some better reward than a "leather medal." I find this abominable stuff is less used in "W.B.C." hives than in others, and that Italian hybrids are much the worst sinners in its use. I have this season tried the wide frames recommended by Mr. Woodley, and I like them very well. The bees do not waste their time and my temper in building bracecombs upon them. I hope eventually to use no others.—EDWARD K. ELLCOTT, *Towcester*, *August* 21.

THE GUIDE BOOK.

VALUE OF ILLUSTRATIONS.

[2603.] I am much pleased to see the letter (2582, p. 323) in BEE JOURNAL of the 13th inst. under this heading. There are, perhaps, few ordinary bee-keepers who have read more books upon apiculture than myself, and from my earliest experiences to the present time I have met with no book on bees which equals in general excellence the present edition of our "Guide Book." The illustrations of work among bees are invaluable, and are practical lessons to all in themselves alone, well worth, in my opinion, all the money. But there is, to my mind, one illustration still wanting in it in order to make the book perfect, and that is a portrait of its much-esteemed author, Mr. T. W. Cowan. A few years ago portraits of "prominent bee-keepers" appeared in the BEE JOURNAL, but even among these our "chief" did not figure. I would respectfully ask why? Hundreds of readers of your columns are unknown to you, Messrs. Editors, and now that the "Guide Book" has gone, and is going, forth daily, not only over these islands, but over all the bee-keeping world, it does seem to me a thousand pities that some one did not press upon Mr. Cowan that the one thing to make his and our "Guide Book" complete was his own portrait as a frontispiece, even to the displacement of the admirable picture of Mr. Carr "driving" the bees. I feel sure that gentleman will be delighted to take an "inside place" to make room for Mr. Cowan, and thus give readers the pleasure of arriving at some idea of the author, so far as his portrait will tend to help us.

I am not without hope that the next edition —which should soon be needed—will see my suggestion adopted.—H. W. BRICE, *Thornton Heath*.

EXPERTS AND FOUL BROOD.

[2604.] Lest the first three lines of letter numbered 2,588 (p. 326), in your issue of the 13th inst., should lead your readers to believe that Mr. W. J. Anstey is in the service of the L. & C.B.K.A., the Committee have instructed me to state that Mr. Anstey is not, nor has he been during the present year, in their employment.

The Committee have no wish to cast any reflection upon Mr. Anstey, but simply that the fact shall be known.—WM. TYRER, Chairman L. & C.B.K.A., *Prescot*, *August* 18.

QUEEN INTRODUCTION.

[2605.] A rev. gentleman to whom I supplied a queen the other day writes me the following novel description of his method of introducing which may interest and amuse your readers.—A QUEEN-REARER, *August* 24.

"DEAR SIR,—Her majesty arrived safely this morning. I kept her in her state prison until the evening, to which treatment she made some protest, which, however, convinced me she was able to bear it.

"I then took her to the palace where she was to find her home, one built of straw, and, placing her and her retinue at a little distance, fired deadly missiles at her from the diffuser—for a queen should be prepared to undergo the same treatment as her subjects. I then let her be, and approaching her palace fired upon the sentinels, and drove them back, with no loss however. Having waited a minute or two, I renewed the attack, this time with fire and smoke, that all the inmates might be aware of the importance and solemnity of the occasion. Again I paused in the attack before sending in another volley from the vapoury bath right into the domain. Being satisfied that they were duly submissive, and would be prepared to meet the unprecedented event with a proper dignity and attention, I liberated the royal captive, and she and her escort took possession. A few minutes after a herald, made up from the royal guard, approached the entrance and

calmly announced that the new arrival had been proclaimed queen. Perhaps I ought to say that to take upon myself the responsibility of this somewhat novel method of introduction, seeing that I had ten minutes only given me for the ceremony.

"Latest.—Aug. 22, 10 a.m.—Peace established. First royal orders: Double sentry. General spring cleaning. Goodwill to all but the queen's enemies."

HOW SWARMING IS CONDUCTED.

A correspondent writes me thus: "A friend of mine and myself have just started in bee-keeping, and we have been having a dispute over the matter of swarming; he claiming that the old bees go out with the young queen to make the swarm, while I maintain that the old queen goes out with the young bees when a colony swarms. Who is right? or is neither of us correct."

It is not surprising that beginners are puzzled about how swarming is conducted when we find such statements in print as:—"Only old bees go out with the swarm;" or again: "the first young queen hatches in the old colony twenty-four hours after the swarm leaves." Misleading statements like these often find their way into papers outside of the bee journals, and it may be therefore useful to correct them, and so make the matter clear from the practical bee-keeper's standpoint.

I always used natural swarming as a means of increase, and have experimented largely to ascertain under what conditions swarms issued, and as a rule I have found that bees of all ages, in about equal proportion, leave the parent hive, from the old forager to the bee that has not been out of its cell but a few hours. Hundreds of times have I seen the ground in front of a hive nearly covered with bees so young as to be unable to fly, and as often observed the veterans with their jagged wings hanging with the clustered swarm, along with bees loaded with pollen. Thus we have field bees, wax workers, and nurse bees in about equal proportions, ready to perform every kind of work necessary in a well-regulated colony. If it were not for young bees going with the swarm, the new hive would be nearly depopulated by the bees dying of old age before another batch of brood was ready to take their places. It takes about twenty-three days before any young bees hatch where a swarm has to build its own comb, and bees die of old age in the working season in less than thirty days after they become labourers in the fields. Again, if the bees were all old, where would the comb come from to fill the hive, for when in normal condition this work is done by bees between the ages of eight and twenty-four days? Then again the youngest bees produce the chyme to feed the larvæ; and so we find that this division of bees in a swarm is just as it should be, and this is the reason why I prefer natural swarming to any division of bees by colonies by the bee-master, or to what is known as artificial swarming. But let us look inside of the hive when preparations are being made for swarming, and see if we cannot arrive at the truth as regards the conditions under which the swarm issues, and when the first queen hatches, &c. The first indication of swarming is the laying of eggs in drone-comb. While drone eggs are not a sure sign that a swarm will issue, yet I have never seen swarms issue without eggs laid therein. If the weather is propitious the next step is the building of queen-cells, after which the queen soon deposits eggs in them. In three days these eggs hatch into larvæ, and said larvæ is fed with abundance of food by the nurse bees for six days, when the cells containing the embryo queens are sealed over. If no bad weather has intervened the swarm issues the next day, the old queen going with the swarm. Now, bear in mind that this is the rule with the black or German bee, and generally with Italians; still, the Italians often swarm when the eggs are first laid in the queen-cell, and sometimes without the least preparations at all except that drones are in the hive. All good authority allows that the queen larvæ remain seven days in the cells after they are sealed over; this being my own experience, and I cannot see how any one could make the mistake in print, saying that the first young queen emerges from her cell in less than twenty-four hours after the swarm leaves the parent hive. When a week of bad weather occurs, after swarming is decided on, it is just possible for the swarm to be kept back so as to issue six days after the sealing of the first queen-cell, in which case the first young queen would hatch in twenty-four hours after the swarm left. But I never knew this to happen, for in cases where the weather is so bad that bees cannot swarm for six consecutive days, there is no honey coming in from the fields, and from the scarcity of honey the bees conclude they must retrench; consequently they destroy the cells and postpone swarming for an indefinite period. A week of entire honey-dearth during the swarming season is also generally enough to upset all swarming calculations with the bees, and very often results in the killing off of the drones and no swarms issuing that season, unless it be in time of a yield from buckwheat and of fall flowers. I therefore find, as a rule, that the first queen emerges from her cell about seven days after the first swarm has left the hive. If more swarms issue they usually come out two days later, or from the ninth to the tenth day after the first, and never later than the sixteenth day. The old queen goes with the first or prime swarm, and a young queen with all after-swarms, while bees of all ages accompany all swarms, whether having a young or an old queen.—G. M. Doolittle, in *American Bee-keeper*.

Queries and Replies.

[1532.] *Carniolan Queens direct from Abroad.*—As the friends of every bee-keeper, I ask if you can tell me in B.J. where I can purchase a pure Carniolan queen direct from abroad, as some English dealers and their queens are so unreliable? I had a genuine Carniolan queen, eight years ago, from a dealer abroad (now out of the business), whose descendants have been the best workers I ever did see. I could easily beat every one about here with them, but they are now about bred out, so I want a new start. I got a so-called pure Carniolan from a well-known English dealer, and introduced it for a friend two years ago; but I think the seller must have made "a mistake on purpose," as they were as black as coal! One day they made an attack on my friend, and a flock of sheep which happened to be near at the time, and a nice "war" it was, I can tell you. So no more black Carniolans for me! P.S.—It has only been a moderate summer here for honey—I think too dry generally, yet a regular income, just sufficient, about three weeks out of every four, to keep breeding going on at top speed, and supers at a standstill. My stocks have just about averaged 24 lb. each for the clover season, and now the heather is at its height, but the weather is at fault, scarcely any sunshine, and the bees seem to be decreasing fast. No doubt a large quantity lose their lives every day, what with the hard work when it is fine, and often being caught out in drenching showers with high winds.—THOMAS KENDALL, *Kirkby-in-Furness, August* 24.

REPLY.—Write to R. Ruffy, Delamont, Jura Vernois, Switzerland; or (in German) to M. Ambrosie Moistrana, Carniola. If unable to write in German, or get it done, we might help you.

[1533.] *Foul Brood in Driven Stocks.*—I am a beginner at bee-keeping, and, unfortunately, on Saturday last I drove a hive of bees that I afterwards found out were infected with foul brood. I, in ignorance of it, placed the driven bees along with another driven lot of my own, and although they did not stop in the hive more than one night, I am led to ask—Can I do anything with them? I do not want to destroy the bees, as they are a fine, strong lot, and I am feeding with medicated food.—C. B. *Kettering, August* 19.

REPLY.—Under all the circumstances detailed, we should not hesitate to rely on the use of preventives for keeping the stock free from disease. A careful inspection of the brood-combs should, however, be made, so soon as young bees are due for hatching out in quantity.

[1534.] *Measuring Naphthol Beta.* — 1. Please say how I am to guess the number of grains of naphthol beta necessary for medicating one or two pounds of sugar? I have no means of weighing the naphthol, so cannot measure out the number of grains mentioned in directions on the packet. If you could give me any idea of measuring some quantity by bulk, such as what could be lifted on a small coin, I would feel much obliged. 2. My apothecary says he cannot supply "pure methylated spirit," and asks me would spirits of wine not answer the same purpose? Perhaps you would enlighten him on this point.—JAS. WEIR, *Castlefaucauld, August* 19.

REPLY. — 1. To "*guess* the number of grains," when dealing with such drugs as the one referred to, is to entirely upset the purpose for which they are used. Nor need there be any difficulty in measuring correctly a proper portion for medicating any smaller quantity of syrup than is mentioned on the packet. Any chemist will supply an 8 oz. bottle marked off in ½ oz. divisions—as described on page 159 of "Guide Book"—and by filling to the fourteenth line on bottle, 7 oz. of solution is obtained. Bearing in mind then that a half-ounce equals one tablespoonful (or four teaspoonfuls) a very simple calculation gives the right quantity of solution for any smaller quantity of sugar than 10 lb. 2. Spirits of wine (alcohol) is the best liquefying medium for naphthol beta, and it was only on finding out the extreme difficulty experienced by readers in procuring it, that methylated spirit was substituted as being easy to obtain and not harmful to bees. This same matter was referred to on p. 317 of our issue for the 6th inst.

[1535.] *Bees Casting out Drones.—Extracting from Brood Chambers.*—Yesterday my bees were busy all day long throwing drones out of the hive, besides many like the enclosed, which I take it are drones ready to hatch out. 1. Is there anything unusual about this? 2. There are eight frames in the hive crowded with bees. Six are about a quarter full at top with honey, the seventh has a little brood, the rest honey; and the eighth no brood, but not quite filled with honey. Would you advise me to extract any honey? If not, will there be any necessity to feed next month?—W. DOLEMAN, *Nottingham, August* 18.

REPLY.—1. Throwing out drones and drone brood at this season is perfectly natural and need cause no alarm. 2. We strongly deprecate extracting from brood-combs in autumn and replacing natural food with syrup. If the combs as described are left untouched, no feeding will be needed, and this is by far the best course to follow, seeing that the trouble of extracting a few pounds of honey, only to replace it with syrup which requires labour on the part of the bees in evaporating moisture from the food and sealing it over, makes the whole operation a loss.

IN CLOVER.

Some sing of the lily, and daisy, and rose,
And the pansies and pinks that the summer-time throws
In the green grassy lap of the meadow that lays
Blinkin' up at the skies through the sunshiny days;
But what is the lily and all of the rest
Of the flowers to a man with a heart in his breast,
That has dipped brimmin' full of the honey and dew
Of the sweet clover-blossoms his babyhood knew?
I never set eyes on a clover-field now,
Or fool round a stable or climb in the mow,
But my childhood comes back, just as clear and as plain
As the smell of the clover I'm sniffin' again!
And I wander away in a barefooted dream,
Where I tangle my toes in the blossoms that gleam
With the dew of the dawn of the morning of love
Ere it wept o'er the graves that I'm weepin' above.
And so I love clover—it seems like a part
Of the sacredest sorrows and joys of my heart;
And wherever it blossoms, oh, there let me bow,
And thank the good God as I'm thankin' Him now;
And I pray to Him still for the strength when I die,
To go out in the clover and tell it good-bye,
And lovingly nestle my face in its bloom,
While my soul slips away on a breath of perfume.

JAMES WHITCOMB RILEY.

Bee Shows to Come.

August 29.—At Tideswell, in connection with the Show of the Floral and Horticultural Society. Open to members of the D.B.K.A. Entries received up to day of Show. J. T. Jackson, hon. sec., Tideswell, via Brixton.

September 2 and 3.—At Birkenhead. In connection with the Wirral and Birkenhead Agricultural Society. Show of hives and honey. The bee-tent of the L. and C.B.K.A. will be on the ground and lectures given each day.

September 3.—At Castle Douglas, N.B. Galloway Horticultural and Honey Society. Open class for *Three* 1-*lb. Jars Extracted Honey.* 1st prize, 30s. and handsome silver medal; 2nd, 20s. and bronze medal; 3rd, 12s. 6d.; 4th, 7s. 6d.; 5th, 5s. Also open class for *Three* 1-*lb. Sections,* with four good money prizes, and in each case championship honours. Entries close August 31. For schedules, apply Thos. Myers, Castle Douglas.

September 5.—Lancashire and Cheshire B.K.A., in connection with Bramhall and Woodford Horticultural Society. Annual show of honey at Bramhall Hall. Open to district and members of the L. and C. B. K. Association only. Schedules from secretary, J. Bell, Davenport, Stockport.

September 8.—At Moorgreen. Notts B.K.A., in connection with the Greasley, Selston, and Eastwood Agricultural Society. Open class for a 1 lb. bottle of honey. Schedules ready. Apply Geo. Hayes, Mona-st., Beeston, Notts. Entries close August 29.

September 9 and 10.—At Derby. In connection with the annual show of the Derbyshire Agricultural Society. Fifteenth Annual Show of the D.B.K.A. as above. Liberal prizes for bees, hives, and honey. Six of the eighteen classes are open to all comers. Schedules from F. Walker, Cattle Market, Derby.

September 16.—Wotton-under-Edge B.K.A. Annual Show of Honey. In the Church Mill. Schedules from E. W. Read, hon. sec., Wotton-under-Edge.

September 26.—At the Corn Exchange, Jedburgh. Annual show of Roxburghshire B.K.A. Twenty-eight classes, all open to members free of entry-fee. Entries close September 22. Thos. Clark, secretary, Pleasants Schoolhouse, Jedburgh, N.B.

October 20, 21, 22, and 23, at the Royal Agricultural Hall, Islington, London, N. Twenty-first Annual Show of the British Dairy Farmers' Association. Eight classes for honey, with liberal prize money, and a class for interesting and instructive exhibits connected with bee culture. Entries close September 21. Schedules from the secretary, Wm. C. Young, 12, Hanover-square, London.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

RATHAUS (Atherton).—*Starting Bee-Keeping.*—We don't know what book on bee-management declares that "bees should not be kept near a mill," but, to our mind, the perusal of a book conveying more enlightened views would be helpful before you make the contemplated start in bee-keeping. Meantime, there need be no fear as to the proximity of a mill doing harm to the bees provided the said mill be not a jam factory. Of the two positions shown on sketch sent we should judge the "shed" to be the best, if the entrances to hives could be cut in back wall of shed. This would give the bees a free flight over the flower-gardens behind without them having to cross the path in front, as would be the case if the hives faced towards the east. There is no need for the sun to shine upon the hives, so the trouble anticipated from this is nil.

CORY PYM (King's Lynn).—*Pollen-choked Combs.*—1. The comb sent is free from disease, but so completely pollen-choked as to render it useless for breeding or storage purposes. It is one of the drawbacks attendant on giving built-out combs to swarms that, if honey is scarce after hiving and pollen plentiful, the bees fill the cells to repletion with the latter and so spoil their usefulness in the hive. We should get the bees to build out a few new combs from full sheets of foundation by giving a couple of frames at a time between the combs now in centre of the hive, removing the latter for the purpose. 2. Medicate all food given for wintering on.

GEO. HINCHCLIFFE (Huddersfield).—*Re-queening Weak Stocks.—Buying Driven Bees.*—1. Weak stocks are not worth re-queening at this season. Unite bees—if healthy—to another stock. 2. If carefully and properly dealt with, it is more likely to be advantageous to buy driven bees now than to buy a swarm next year, the chances of securing surplus being greater. 3. Only analysis would prove whether sample sent is cane sugar or not. Does seller guarantee it pure cane? If so, use it.

"WORLD'S END" (Oxford).—Comb received contains chilled brood only. Whether dead or not when removed from the hive we cannot say, seeing that the "chilling" is quite recent. There is, however, no diseased brood in comb.

T. F. EVELEIGH (Manchester).—*Medicating Bee-food.*—The recipe No. 8, on page 163 of "Guide Book," is simply an alternative one for medicating syrup to those given in recipes Nos. 6 and 7, to be used at the option of readers. Like the others it is suitable for food given in any season.

R. MYERS (Leeds).—Judging by sample the combs in hive must be very old, black, and much needing renewal. Most of the brood has been "chilled" for some time, and there are also traces of foul brood in the dried-up remains at bottom of a few cells. We should, in any case, destroy the combs by burning, and, unless the bees are sufficiently strong to draw out new combs from full sheets of foundation, they are not worth saving.

J. A. C. (Longfleet).—*Sending Samples of Brood-comb.*—A decent piece of comb containing brood must be sent before we can give an opinion whether or not it is worker-cells in which the drone-brood appears. The sample received has, for some unaccountable reason, been crushed into a shapeless lump (before putting it into the tin box), which renders it impossible for us to decide whether it is worker or drone-comb, and also as to foul brood therein. We are always pleased to render what help we can, but correspondents should themselves do their part by sending a clean-cut sample of brood in comb as nearly in the condition in which it stood in the hive as possible.

E. T. CLARKSON (Craigellachie, N.B.)—*Extractor for Loose Combs, &c.*—For the purpose described, the machine must have loose folding cages for holding the pieces of comb cut from skeps. Louth's "Unique" Extractor has cages of this type, but no doubt there are others on the market with cages of similar pattern.

A. POLLOCK (Hyde).—The plant is right, but if the land on which it grows is low-lying, marshy ground, but little honey will be gathered from it. By far the best results are obtained from heather when grown on the hills.

T. HARRIS (Newport).—Comb received is very old and pollen-clogged, but free from disease. If all the combs in skep are similar to piece sent, the queen will have almost no empty cells in which to deposit eggs, and this being so, it may account for bees dwindling in number.

W. P. H. (Biggleswade).—*Quadruple Hives.*—It has been clearly demonstrated, after many trials, that three, four, or more colonies of bees cannot be successfully worked in one hive divided off by partitions only.

A. L. Y. M. (Northants).—Comb received is "pollen-choked," and infected with wax-moth; but there is no disease in it.

A. G. DALE (Lowestoft).—*Mead-making.*—Refer to B.J. for February 28 last year (p. 83), and March 21 (p. 117).

FELIX BRIDGETT (Stoke-on-Trent).—*Queenlessness.*—A crowded stock at this season, with "no brood in combs, but plenty of stores," may be almost safely declared to be queenless, unless there is a young queen, not yet fertilised, at its head. Examine a week hence, when, if no eggs are seen, the stock should be re-queened.

Special Prepaid Advertisements.

Situations, Publications, Bee Plants, &c. — Up to Twelve words, Sixpence; for every additional Three words or under, One Penny.

BEES, strong Stocks, complete for wintering, £1. Particulars free. SUTTON, Burston, Diss. N 20

WANTED to EXCHANGE, 5 lots of Driven Bees for one good lot. C. BUTCHER, Tolworth, Surrey. N 18

HEALTHY DRIVEN BEES, 1s. 3d. per lb., and their Queen; extra Queen, 2s., box returned. E. GARNER, Broom, Biggleswade, Beds. N 13

ENGLISH HONEY, good quality, 6½d. per lb., tins and crates free. Sections 8s. per dozen. Samples 3d. H. MAY, Kingston, Tetsworth, Oxon. N 16

FOR SALE, Two strong STOCKS of English BEES, in new Bar-frame Hives, 30s. each. Apply ARDERN, Ash Villa, Lynn, Cheshire. N 19

WANTED, Few lbs. of Pure BEESWAX for cash. State lowest price. Also good BICYCLE. Exchange Bees and Appliances. FLEWELLING, Burford, Shepton Mallett. N 15

BLAKEY'S BEE FEEDER, made of wood, zinc, and glass. Holds one pint. Price 6d. The postage of one costs 4½d., two 6d., four 9d., six 1s. 1½d. J. M. BALMBRA, 2, East Parade, Alnwick. N 14

Editorial, Notices, &c.

PROVIDING FOR "SHOWS TO COME."

The schedule giving particulars of additional classes for honey, &c., at the Dairy Show in October next will no doubt add considerably to the general interest of bee-keepers with regard to the event. It will be seen that all the classes for which prizes were offered in former years are retained, with a slight change defining the 1st class for extracted honey as "light-coloured." Then we have, in addition, new classes for (*a*) twelve 1-lb. jars of dark-coloured extracted honey; (*b*) twelve 1-lb. jars extracted heather honey; (*c*) twelve 1-lb. sections of heather honey, and (*d*) a class for the "Most interesting and instructive Exhibit of any kind connected with bee-culture, including wax, mead, honey-vinegar, cakes, or articles of any kind in which honey is an ingredient."

The total number of prizes is thirty-five, four prizes being apportioned to each of the first five classes, and three to each of the remaining four, the medals, &c., of the B.B.K.A. completing the list. We also notice that in the classes for "extracted honey in commercial packages" it is clearly laid down that "the quality of the honey is of primary importance." This will remove any vagueness so far as these being termed classes for "honey packages."

These various changes tend to show that those who control the schedule are not slow to recognise the need for meeting new developments as they arise. We have now a distinct recognition of the claims of dark honey for a place for itself on the show-bench; the same with heather honey, both extracted and in comb. This latter change will probably be as welcome as the one dealing with colour to those whose task it is to make the awards, seeing how utterly impossible it is to differentiate between flower honey and heather honey in the same class. The class for "interesting and instructive" exhibits is also a comprehensive one, and should fill both requirements in their fullest sense.

It is to be hoped that the manifest desire to extend the honey section of the Dairy Show will meet with the hearty support of all who are honey-producers, and that a cordial response in shape of numerous entries will be made by bee-keepers throughout the kingdom. Before closing, we add a word inviting attention to the particulars on page 337 of our issue for Aug. 20, whereon are printed the "half rate" charges for which honey is conveyed by rail. A perusal of the table will enable any one to see the cost of carriage to the show at a glance, and if arrangements for "sales" take the form we hope to see, there should not be much difficulty in ensuring that all the honey sent for sale is disposed of. In fact, the Agricultural Hall offers such special advantages as a honey fair that only a little ordinary business tact seems needed to make it a yearly meeting-ground for buyers and sellers alike.

Having said this much for the Dairy Show, we add a very urgent word on behalf of the "Royal" show, to be held at Manchester in 1897. It is fully expected that at the important show named there will be an extension of the prize list in the honey section next year, and that a special class will be added for honey trophies, to be competed for by county associations, or a specified number of members representing such associations. Now, considering the early date on which the "Royal" is held, it will no doubt be arranged that, in the Trophy Class, honey of any year will be available; and this is why we lose no time in mentioning what is more than probable in order that some good honey of this year may be held in reserve for the Trophy Class in 1897.

We do not think that anything in the shape of very large individual exhibits will be aimed at. In fact, if county associations would take the matter up heartily, the weight of honey staged in each trophy might be very much a matter of mutual arrangement. The main point at this juncture is to hold back some honey of '96 while it is still on hand, and await further developments, in the course of which we have no doubt that any opinions the county associations may express will receive every attention from those who frame the schedule. If, then—as we hope will be the case—an extra liberal list of prizes be offered for competition, with specially good prizes in the Trophy Class, a largely increased entry is more than likely to be secured.

ULSTER BEE-KEEPERS' ASSOCIATION.

An extraordinary general meeting of the members of this Association was held on August 21, at 3, Albert-square, Belfast, for the special object of considering a proposal to wind up the Association.

The Rev. H. W. Lett, M A., presided, and there were also present Messrs. W. J. Johnson, J.P., Edward Smyth, A. W. Child, and Archibald Morris, honorary secretary.

The chairman in opening the proceedings gave a brief history of the Association from its formation on March 12, 1881, at a meeting in the Tontine Rooms, in the City of Armagh, with himself and the late Mr. George Greer, J.P., of Woodville, Lurgan, as secretaries. It was at first called the Co. Armagh Bee-Keepers' Association, and was well supported. A bee-tent was purchased with which year after year lectures and practical demonstrations in all kinds of bee-work were given by the secretaries at Lurgan, Portadown, Newry, Warrenpoint, Newtownards, Belfast, Lisburn, Strabane, Dungannon, Omagh, and Banbridge. This had educated six of the counties of the province of Ulster in the work which Mr. Abbott had introduced to Ireland. The late Mr. Samuel Hill, of Banbridge, and the late Mr. Paul M'Henry, of Lambey, who was an energetic secretary for many years, carried out the same work in their respective neighbourhoods, while Mr. W. R. Orr, at Strabane, and Mr. W. Lonsdale, at Lurgan, built up the Association in these localities.

Modern bee-keeping and the improved methods of honey-harvesting with frame hives went on merrily, and the Association extended its bounds and changed its name to that of the North-East of Ireland Bee-keepers' Association, with its headquarters in the City of Belfast. Annual shows of honey and bee appliances were held and attracted exhibitors from all parts of Ireland, and some from England. About nine years ago another alteration was made in the title, and it became the Ulster Bee-keepers' Association.

He knew from his large experience of judging in honey at the various shows that Ulster men have profited by the instruction the Association imparted. They have got hold of modern bee-keeping, and intend to persevere. At every flower-show, and even at most of the cattle shows through the Ulster towns and villages, there is now always a honey department: this is entirely owing to the interest created by the work of the Association. The Association during its fifteen years had done a vast amount of good, and as the survivor of the two original members of the oldest bee-keepers' association in Ireland he much regretted that it was about to be proposed to put an end to its existence.

Mr. W. R. Orr referred to the ruinous havoc that had been wrought in numerous places in Ulster by the dread disease of foul-brood. It had made a clean sweep of bees in some places where they had been largely kept for years. Mr. Child, Mr. Morris, and the Chairman also testified to the losses through this cause, which they considered might have had a share in causing the depression of interest amongst bee-keepers in the North of Ireland, of which they complained. All agreed that Cheshire's cure was beneficial, but its application was too troublesome and expensive for a poor man who had to make money out of his bees. Mr. Orr considered that it was a matter deserving the serious attention of the government of the country, as it threatened to exterminate bee-keeping.

Mr. A. W. Child explained that owing to the decreasing number of subscribing members, and the difficulty of getting any person to undertake the duties of hon. secretary, it had become necessary to wind up the Association. They had for many years subsidized several honey-shows in the province, but latterly there were not sufficient funds to do this, and the Association had come down to be simply a means of selling honey for a very few members, who were sagacious enough to take advantage of the benefit of the local depot in the city of Belfast. At a Committee meeting on the 17th inst., it had been considered better for many reasons to go into liquidation than to amalgamate (as some had thought of) with the Irish Bee-keepers' Association. They had some funds and property. And he accordingly, with regret, moved that the Association be wound up, the assets to be realised and the money distributed towards honey prizes between the Larne and Strabane shows. Mr. Orr seconded the motion, which was passed unanimously, and the proceedings terminated.

WEST DORSET B.K.A.

We learn that a Bee Association for West Dorset was established in May last, having for its president Col. Williams, M.P. The Rev. H. C. B. Field, M.A., is Chairman of the Committee and Treasurer, Mrs. Watson, Bothenhampton Vicarage, Bridport, undertaking the duties of hon. secretary. Bee-keepers in the county desirous of becoming members may obtain particulars from Mrs. Watson as above. Though only a few months old, the Association already numbers forty-one members, and has begun work by rendering immediate practical assistance to those who have honey to extract and dispose of. We wish the venture every success.

BIGGAR BEE-KEEPERS' ASSOCIATION.

The annual exhibition of this Association was held in the Corn Exchange Hall, on August 29, in conjunction with the show of the Horticultural Society.

There was a grand competition in nearly all the classes, which made the honey section undoubtedly *the* feature of the show. Owing to the general excellence of the exhibits, the

judge (Mr. Gray, of Carluke) had some difficulty in making the awards, which, however, gave general satisfaction, and were as follows :—

Six 1-lb. Sections.—1st, Robert W. Clarkson, Cormiston ; 2nd, R. Murray, Biggar ; 3rd, A. Boa, Biggar.

Six 1-lb. Sections Heather Honey.—1st, R. W. Clarkson ; 2nd, R. B. Forrest, Coulter ; 3rd, A. Boa.

Single 1-lb. Section.—1st, John Lawrie, Browns Bank; 2nd, A. Boa ; 3rd, R. W. Clarkson.

Single 1-lb. Section Heather Honey.—1st, R. W. Clarkson ; 2nd, R. Clarkson, Cormiston Farm ; 3rd, A. Boa.

Three 1-lb. Jars Extracted Honey.—1st, M. Rae, Biggar ; 2nd, John Emerson, Biggar ; 3rd, John Clark, Liberton, Carnwath.

Three 1-lb. Jars Heather Honey.—1st, A. Boa ; 2nd, Walter Rae, Biggar ; 3rd, W. Ormiston, Biggar.

Best Super.—1st, John Clark ; 2nd, R. W. Clarkson ; 3rd, R. Murray.

Best Super Heather Honey.—1st, R. W. Clarkson ; 2nd, M. Rae.

Display of Honey.—1st (silver medal), Walter Rae ; 2nd, A. Boa ; 3rd, M. Rae.

Beeswax.—1st, Robt. Colthart, Abington ; 2nd, A. Boa ; 3rd, John Clark.

Honey Cake.—1st, Miss Boa, Biggar ; 2nd, Miss Mysie Rae, Biggar ; 3rd, Miss Rae, Biggar.

Two 1-lb. Sections Flower Honey and Two 1-lb. Sections Heather Honey (Owners of not more than three hives).—1st. R. Clarkson, Cormiston Farm ; 2nd, Jas. Marshall, Hartree-square ; R. C. Smith, Biggar. — W. Ormiston, *secretary, Biggar B K.A.*

DURHAM AGRICULTURAL SOCIETY.

SHOW AT SUNDERLAND.

The fifty-second annual exhibition of the above society was held at Sunderland on the 25th ult., and a small section of the show was this year devoted to bees, hives, and honey. The entries were not large, but a considerable amount of interest was taken in the exhibits by visitors. The bee-tent of the Yorks. B.K.A. was on the ground, and lectures on bee-management delivered at intervals by Mr. Crisp, of Eaglescliffe, Yarm.

The same gentleman also judged the honey and bee-appliance classes and made the following awards :—

Collection of Appliances.—1st, W. Dixon, Leeds ; 2nd, Caldcleugh Bros., Durham.

Most Complete Frame-hive.—1st, W. Dixon ; 2nd, Caldcleugh Bros.

Frame-hive for Cottagers' Use, Price not to exceed 10s. 6d.—1st, W. Dixon ; 2nd, Caldcleugh Bros.

Twelve 1-lb. Sections.—1st, T. W. Thubron, Ferryhill ; 2nd, W. Burnip, sen., South Hetton.

Six 1-lb. Sections.—1st, T. W. Thubron ; 2nd, W. Dixon.

Twelve 1-lb. Jars Honey.—1st, W. Dixon.

Three Frames of Comb Honey for Extracting.—1st, W. Dixon.—(*Communicated.*)

EXTRACTING AND GRADING HONEY.

A correspondent having asked for information on the best method of uncapping combs, and on "grading honey," we remembered that an article on these same subjects had appeared in our pages some time ago, and to which we intended to refer our querist. However, on searching out the date we were forcibly reminded how rapidly time flies, seeing that the number sought was dated February 26, 1891. This being so, and bearing in mind how many of our present readers had never set eyes on a bee journal five years ago, we decided to reprint the article with the original illustration—which latter, by the way, has done good service in other directions, and been credited with "conveying more help in showing how to uncap combs than pages of text."

We are the more pleased in using this bit of reprint, because of finding that the letter now received is nearly synonymous in terms with the one appearing on page 98 of vol. xix., and which called forth the article below.

After printing the several queries, the reply goes on to say with regard to

Grading Honey.—In our own practice, boxes of ready-built combs 5½ in. deep, in which no brood has been reared, are always kept in store, and these are given to the bees as early in the season as required. Of course, if the bee-keeper has no ready-built combs, full sheets of foundation must suffice. Excluder zinc between brood and surplus chambers is *invariably* used, care being also taken to write on each box the *date* on which it is placed upon the hive. Strong stocks with us usually receive their first surplus-chambers about the end of May or beginning of June [when this was penned the writer was located further north than now—Eds.] ; and these first chambers are left next to the brood nest *all through the season*, the bees feeding from them to a great extent. Between the 12th and 15th of June a second box—dated as before—is placed above the first one ; these second chambers being given in ordinary seasons whether the first ones happen to be completely filled at the time or not. Any additional boxes required later on may be set either under or over the second one—given in mid-June—according to the season and circumstances ; but the very finest honey will be found—from clover districts—in the boxes filled between the 15th and 30th of June. That gathered earlier is more or less fruit and tree honey, *i.e.*, sycamore, &c. ; and, like that

collected towards the end of the season, is darker and less delicate in flavour. Thus, by using shallow-chambers and dating them, the honey grades itself. The honey is usually left to ripen on the hives, none but fully sealed combs being removed till the general harvesting, when the extracting begins at once before the honey is cool and has thickened in consequence. Six or eight boxes will be found sufficient for a good evening's work, and this number may be removed from the hives during the day and extracted the same night.

EXTRACTING.—Nothing so much aids us in this part of the work as *good tools*. Ours consists of an extractor, holding four combs; a "strainer and ripener," the upper or movable portion of which is of sufficient capacity to hold five or six gallons of water, and will, of course, contain a great quantity of cappings, from which the honey is day and night gradually dripping through the sieve into the receptacle below. It seems incredible how the honey drains through; but it does in time, and so none is lost. Then we have a lamp "knife-heater"; a couple of keen-edged old carving-knives, with blades about 10 in. long, the points of which are slightly curved outwards for about 1½ in.; a wooden "tray," with a raised edging ½-in. high all round it, and near the left corner a couple of small pieces of wood nailed on so as to form an angle or rest, so—⌊—this keeps the frame from slipping. Finally, we have a brown holland "blouse," which slips over and protects the clothes. A bowl of clean, cold water, for dipping the hands in, and a towel complete our "kit."

Thus equipped, and with the boxes of honey piled one above the other, we prepare to start. First, with a pencil, we consecutively number the combs in each box, so that they may be replaced in the same order as built by the bees—experience will show the wisdom of doing this. Our surplus chambers are also made wide enough to allow of a ¼-in. wooden wedge being placed between the "metal ends" of the outside combs and the sides of the box, for the purpose of giving lateral space for lifting combs, and also for preventing the bees from building brace combs, as they often do, when only a ¼-in. space is allowed between the comb and side of the box. Our correspondent has alluded to "bad uncapping," and we may say that *that* has a deal to do with the difficulty of extracting cleanly and rapidly. The annexed sketch shows the manner of holding the comb while uncapping. With a sharp knife, just withdrawn from *hot water*, and a shallow comb as in the sketch, the whole sheet of wax capping may, with a little practice, be removed at one cut, without bruising or breaking the cell walls in the least. This is an important point, because if the cells are damaged, the honey will not so freely leave the comb, as the cage of the extractor revolves.

The operator, grasping the "lug" of the top bar firmly in his left hand, places the lower end in the "rest," a knife is lifted from the hot water, and after touching the blade with the towel to remove the drip, he leans the frame forward so that the sheet of capping, as it is severed, hangs clear of the surface of the cells, as seen in the sketch. When cutting, do not give the knife too much of a "sawing" motion, and endeavour to keep the blade just beneath the surface of the capping; when the top of the comb is reached, the capping will adhere to the knife long enough to allow you to drop it smartly into the strainer close by your right hand, ready to receive it. Stroke both sides of the knife blade on the edge of the strainer to remove the adhering honey, and replace it in the hot water. We never use the same knife for uncapping more than one side of the same comb. It takes far less time to do the job than to describe how it is done; but to do it well, requires both care and practice. There must be no "dragging"

while the knife is passing upwards, or the cell walls will be all bruised in its passage, and, as before stated, the honey will not flow freely. As each comb is uncapped it is placed in the extractor, and when the four are inserted we at once start, using no care whatever as to speed, and giving no heed to the usual precaution against fracturing the combs by the too rapid revolution of the cage. Neither do we ever think of troubling to partly extract one side of heavy combs and then reversing them, only to turn them again before completing the extracting, as is so often advised. These precautions *may* be necessary when working with standard frames; with shallow frames no such care is needed. About two minutes suffices to extract one side of the combs, when they are reversed, and the operation is repeated till all the frames have been gone through. When the space below the cage is full of honey, the extractor is raised up

on a box high enough to allow of an earthenware "bread-mug" being placed below the valve tap. These mugs each hold about one 100 lb. of honey, and, when a piece of book-muslin—not too fine—just wrung out of clean, cold water, is stretched over the mug, the tap can be so regulated as to run just as fast as the honey will strain through; it, therefore, needs no watching. As the mugs are filled a clean cloth is tied over each; they are then labelled and set aside in a warm place ready for bottling off after all extracting is completed. When this is done the cage is removed from the extractor, the cylinder being washed out to remove all wax chippings, and it becomes a honey vat for bottling purposes.

Death of Mr. Allen Pringle.

We learn from the *Canadian Bee-Journal* of the 13th ult., that the above-named gentleman died on July 22, at his residence, Selby, Ontario, Canada, aged fifty-five years. Mr. Pringle was for many years prior to his decease prominent among the foremost bee-keepers and writers on apiculture in Canada and the U.S.A. Being himself a practical farmer and bee-keeper, he was regarded as an authority on both subjects. For several years he filled the office of president of the Ontario Bee-keepers' Association, and was appointed superintendent of the fine exhibit sent from Ontario to the World's Fair at Chicago.

Writing of Mr. Pringle again this week, the *American Bee-Journal* says, "He made his bee-culture and farming pay in dollars and cents; handled his large apiary alone, doing all the work; put up and marketed his honey, worked on his farm, and found time (at night) to write for bee-keepers, agricultural journals, magazines and newspapers, besides conducting a large correspondence."

Mr. Pringle leaves a widow and one daughter, to whom we tender our respectful sympathy in their great loss.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

DARK HONEY.

[2606.] Last year I had no dark honey among my sections, and this year about one-tenth of them are dark and all the rest light or golden coloured. It happens that I am able to fix the particular time when this dark honey was gathered. All the sections taken up to June 19 were light in colour, as were all that I took on August 10; while the few removed between June 19 and July 10 were mostly dark. I think the last ten days of June were coldish here, so that this dark honey was chiefly gathered during the first ten days of July.

Can any cause or remedy be suggested? I am much inclined myself to blame the "honey dew" in which the rustics believe so implicitly as the best source of all our stores, but I fear bees cannot be trained to avoid this.

I have, I think, ascertained a fact about the position of hives. My bee garden is a square, on the north side of which eleven hives look south, while six on each of the east and west sides face east and west respectively. Those that face east and get the morning sun have easily beaten their vis-à-vis, who got no sun on their boards till twelve and enjoyed him till sunset. I shall therefore transfer the latter during the winter into line with their rivals. I cannot observe any difference in yield between those facing south and their Parsee brethren.

I have one section which was built upwards (the piece of guide comb having, I suppose, fallen) in two columns, united at the top, something like a pair of trousers, one leg of which is light in colour and the other dark. The dark leg was left in the super on July 10, and the light one added afterwards.—C. C. JAMES, *Wortham Rectory, Diss.*

[Honey dew is, no doubt, a frequent cause of dark honey in some seasons and in some districts; but there are many flowers the nectar from which is more or less dark, notably fruit trees, hawthorns, limes, blackberry, field beans, and others. One of the darkest honeys is also one of the best, viz., that from heather. —EDS.]

BEESWAX.

[2607.] Possessors of choice samples of wax ought not to forget that specimens will be wanted for the Manchester County Trophy Competition. Cappings ought to be reserved for any special purpose like the one in view.

A grocer asked me recently at one of our shows why we did not cast our wax in uniform sizes fit for sale in shops. Two, four, and eight-ounce pieces are the most convenient weights. I see pure beeswax is retailed in London stores at 1s. 8d. It would be a very good plan if English wax were cast in some recognised shape, so that it might be distinguished as the home product. The grocer above referred to preferred the form of the cakes imported from France, but I do not find that London shops have much care about shape so long as the pieces weigh two, four, or eight ounces.—E. D. T.

CARNIOLANS, AND ENGLISH BREEDERS.

[2608.] One can hardly pass by such remarks as those made in Query 1532, on page 348, without attempting to correct the false impressions left on the mind of the reader.

I feel sure Mr. Kendall would not have made the statement that some other was supplied as a Carniolan queen by an English dealer, who "must have made a mistake on purpose," if he had given the subject his serious consideration. In the first place, no breeder would think of using anything but pure—most likely selected imported—queens from which to rear drones and young queens. Secondly, Mr. Kendall must have ordered an untested queen, and with such would expect no guarantee beyond its being a fertile one. In that case he would take it "for better or for worse"; and should it happen that the queen had not a native drone, of course her bees would be dark, and though excellent honey-gatherers, scarcely so amiable as natives. Thirdly, had your correspondent ordered and paid for a tested queen, he would, of course, have one sent to him that was producing bees with correct markings and of a gentle disposition. Otherwise the remedy would be in his own hands. Evidently, however, such was not the case.

Now, the chances being that, in accepting the insect at the lower rate, he came in for a mismated queen, though herself from a pure mother, it would be interesting to learn why such purchase should turn out any worse than his own mismated queens bred from the imported insect he procured in the first place. — A QUEEN BREEDER.

A SKEPPIST'S OPINION

ABOUT MODERN FRAME-HIVE AND ITS USE.

[2609.] I had a chat last week with a skeppist which might be of interest to your readers. It came about by my noticing some bees in the garden of a farm-house. I took the liberty of having a look round at them. There were eighteen skeps and three frame-hives. The farmer came out, and we had a bee-talk. I soon found that he was a thorough skeppist, for, on my alluding to his three frame-hives, he said "the confounded things are not nearly so good as skeps." He had bought them at a show for 20s. apiece, and got no honey from them for two years, and only one swarm. On my expressing a wish to look into one of the frame-hives, he didn't seem to like the idea, observing that I would only get stung. However, I tried to lift a roof off, but found it stuck fast, and this made me press to be allowed to get it off, which at last I did, only to find the roof packed full of bees and combs. This I soon fixed on again, and left it so rather than offend the owner. We talked about his skeps, of which he said seven were put down for "taking" (*i.e.*, brimstoning). I offered to drive the bees instead of his killing them and arranged to do so last Wednesday. Arrived at the place with my "driving" tools we talked again before commencing operations, and in the end I bought five of the seven skeps as they stood at 7s. 6d. and 8s. each and drove the other two for him. I got my skeps home and have since driven two of them. In one the combs and honey weigh 29 lb. and in the other 31 lb. But in spite of all this, our friend the skeppist had not a good word for the modern system.—A. BAGLEY, *August* 22.

NATURAL *V.* ARTIFICIAL SWARMS.

It is a pretty generally received opinion among bee-keepers, I think, that the operation of natural swarming gives the bees an impetus that causes them to work more rapidly, both at honey gathering and comb building, than would have been the case had they not gone through that process. Whether that opinion is sound or not is a question of much practical interest, because it would often be convenient and desirable, if the net results were not to be thereby diminished, to prevent natural swarming by artificial swarming, through the use of some method of division. On the face of it there is strong evidence that natural swarming gives the impetus referred to, but there is reason to believe that we may cherish a just suspicion that the swarming is a mere coincidence, and that the apparent evidence is produced by other causes. For instance, it might easily prove to be the fact that the more rapid progress of the work of the hive is caused by the absence of the necessity of making provision for any considerable amount of brood for a somewhat prolonged period of time, as the chronology of the apiary goes. To produce better results in the matter of surplus honey some apiarists practise caging the queen for a time, thus putting a stop to the depositing of eggs, and to that extent to the feeding of brood. Is not natural swarming nature's way of checking the queen? And, if so, may not artificial swarming be so managed that the same check is given and equally desirable results obtained?

The accompanying table gives the details of an experiment, such as circumstances permitted, conceived for the purpose of gaining, if possible, some satisfactory information on the matters referred to. The scantiness of the honey flow has prevented the attainment of the degree of success hoped for, and, besides, the experiment, cast in an entirely new field, has been a sort of groping one, and yet I think it will be found far from barren of valuable results.

One of the most perplexing, and at the same time one of the most natural things, that enter into the problem, is the satisfactory estimation of the amount of food necessary to produce the brood which each colony has reared during the process of the experiment; for it is evident that unless the colonies are of the same strength, and the amounts of brood reared equal, or, at least, unless the amounts of brood reared by several colonies bear the same proportion to their several strengths, this matter is in the highest degree important. It

is evident, referring to the accompanying table, that the disparity between the strength of the artificial swarms of June 6 and the natural swarms of the same date is so great, and the amount of brood of each class bears such different ratio to its strength, as compared with that of the other, that it would be futile to attempt to show that either class did the better, without knowing the amount of honey required for the rearing of a pound of brood, and it would be equally impossible to make a valid argument showing the amount of honey required for the rearing of a given amount of brood, unless it is first determined whether the two classes gathered honey equally well in proportion to their strength. Still, if we assume that the two classes gathered honey with equal zeal, which is probably not a very violent assumption, we may, especially if supported by facts drawn from the swarms of whose hives were practically free from honey, and the frames full of brood had an average weight of about one and a fourth pounds. From this, when the amount of brood is determined, it is easy to find the amount of the honey in each brood chamber. In the case of the swarms of June 23 the same course was pursued, except that 8, 9, and 10 were hived on starters, 9 being an artificial swarm, and 10 a natural swarm with a virgin queen.

Starting with the above assumption, then, that the two classes of swarms of June 6 each gathered the same amount of honey per pound of bees, it is only necessary (not to be captious about minor points), in order to ascertain the amount of honey expended in the rearing of brood, to find the number which, when multiplied by the pounds of brood in each class, will give certain results. These results, if added respectively to the

—	Colony Number.	Contents of hive.	Weight of hives June 6, 1896, in lb.	Weight of bees in lb.	Comb honey, lb.	Weight of hive July 11, lb.	Increase in weight of hive, lb.	Number Heddon frames of brood.	Weight of brood in lb.	Weight of honey in brood chamber, lb.	Total honey, lb.	—
Artificial Swarms hived June 6, 1896.	1	Fdn.	16½	3½	..	30¾	14¼	5	6¼	8	8	
	2	,,	17¾	5¾	6½	29½	11¾	6½	8¼	3⅞	10⅜	
	3	,,	16¾	3	..	31	14¼	4½	5⅝	8⅜	8⅜	
	Total	..	..	12	6½	..	..	19	20	20½	27	
Natural Swarms hived June 6, 1896.	4	,,	17	7¼	22½	27	10	7¾	10	..	..	
	5	,,	17½	6¾	20	27½	10	8	10	..	..	
	6	,,	16¼	7¼	23	26¼	10	8	10	..	..	
	7	,,	17¾	7	14½	29	11¼	8	11½	..	..	
	Total	..	..	28¼	79¾	..	..	..	41½	..	79¾	
Hived June 23, 1896.	8	Str's.	15½	7	14¾	24½	9	5	6¼	2⅜	17½	Natural Swarm.
	9	,,	14¾	7¼	12¼	29¾	15	4½	5⅜	6½	21⅝	Artificial Swarm.
	10	,,	15½	6½	14½	22½	7	5	6¼	3¼	15¼	Natural Swarm, Virgin
	11	Fdn.	16½	9½	18¼	29	12½	5	6¼	6¼	24½	Natural Swarm. [Queen.

June 23, arrive at a tentative conclusion, and, perhaps, open the way for a satisfactory solution of these questions hereafter.

First a few words in explanation of the table. Of the swarms of June 6, the first three are artificial; that is, made by shaking the bees with the queen from a hive in which no preparations for swarming had been made, and hiving as in the case of a natural swarm. Colonies 4–7, inclusive, are natural swarms of the same date. As the table indicates, all were given brood chambers, consisting of a single section of the Heddon hive, each furnished with full sheets of foundation. As will be seen, hives, bees, and supers were carefully weighed separately, so that at the end of the experiment, July 11, it was easy to determine the amount of the increase in each. At the same time the hives were gone over carefully to determine the amount of brood in each, which is expressed in Heddon frames, and the weight of the brood is determined from the showing in the case of the colonies 4 to 7, number of pounds of honey in each case, will show sums taking second and fourth places in a true proportion wherein the numbers representing the weight of the bees in both classes are the other two terms.

In other words, to find the value of X in the expression : 12 : X 20 + 27 :: 28¼ : X 41¼ + 79¾. The value of X will be found to be almost exactly 2¾. But it is thirty-five days since the bees were hived, and if we allow five days for the time that elapses before active feeding begins, thirty days remain—nearly time enough for a generation and a half. Making proper allowance, we may say, till some crucial experiment is made, that it requires nearly two pounds of honey for the production of a pound of unhatched brood. Of course, much pollen is used in addition. If the mature bees during their active life use any considerable amount of honey with their more substantial pollen diet, that complicates the matter. If the same line of reasoning be applied to the colonies of

June 23, proper allowance being made for the difference in the length of time during which feeding has been going on, and for the greater proportion of uncapped brood, they will furnish strikingly corroborative evidence.

That the assumption made above is not a violent one is shown clearly, so far as the performance of one colony can do it, by No. 9 of the table. In this case an artificial swarm of about the average strength of others of the same date the total amount of its honey product is considerably above the average. The results in the case of this colony prove, so far as they go, that artificial swarms may do fully as effective work as natural ones.

It is only necessary to point out further that No. 10, the colony with a virgin queen, in proportion to its strength, outdid all its competitors in the production of comb honey—the point where excellency was least looked for—a result which seems at least to call for a suspension of judgment on the question of the desirability of virgin queens in colonies used for the securing of comb honey.—R. L. TAYLOR, *Government Experimental Apiary, Lapeer, Mich., U.S.A.—Bee-Keepers' Review.*

MANCHESTER NOTES.

The first annual show of the South Manchester Horticultural Society was held on the 22nd ult., in the grounds attached to the residence of E. Donner, Esq., at Fallowfield. Lectures and practical demonstrations in bee-keeping were given during the afternoon in the large bee tent of the L. & C.B.K.A. by Mr. F. H. Taylor, the energetic local hon. sec. of that Association, he being assisted in the demonstrations by his colleague, Mr. T. F. Harrison, of Northenden.

The lecturer was favoured with fine weather, and large crowds were attracted to the tent at every lecture; indeed, the bee tent was declared to be *the* attraction of the show. Upwards of 500 persons attended the lectures. Mr. Taylor dealt very fully with the subject in hand, and is to be congratulated upon the very able manner in which he handled it.

Queries and Replies.

[1536.] *Dealing with Skeps in Autumn.*—I have several lots of bees in straw skeps (old stocks and swarms), and am desirous of taking the honey from them. Could I drive them and put the bees into empty straw skeps if they were fed? And if so, how long would I feed them? 2. Will the bees live the winter through if dealt with in this way, or would it be better to put them into movable-comb hives—with frames fitted with comb foundation—and fed? 3. After removing the combs from skeps, would you advise me to sling the honey out, and keep the comb for use in other hives? or shall I melt it down for wax?—E. COTTINGHAM, *Horncastle, August* 31.

REPLY:—1 and 2. We should adopt a course midway between the plans proposed, for two reasons—first, skep honey from "old stocks" is far from nice for cutting out and extracting, while that from swarms of the current year may do very well. Second—It is a rather cruel and not often satisfactory proceeding to rob bees of the whole of their combs and food, and turn them into an empty skep to make a re-start in autumn. If, therefore, there are two old stocks and two swarms to be dealt with, we should take the heaviest swarm and select one of the old stocks which had thrown a swarm this year. Drive the bees of swarm (capturing the queen in the process), and unite them to those in the selected old stock. Thus the bees will be saved and the stock put in order for wintering well and casting an early swarm next year headed by a young queen. The other two skeps may be dealt with on the second or alternative plan, *i.e.*, drive both skeps, capture the oldest queen, and unite the bees in a frame-hive—fitted with foundation as proposed—and fed till combs are drawn out and food stored for winter. Compare results of the two plans at close of next year. 3. The combs of skeps after extracting honey had best be melted down for wax.

[1537.] *Utilising Driven Bees—Uniting in Skeps.*—I have driven cottagers' bees for two seasons successfully, but my operations have usually been confined to one lot at a time, the bees being brought home and united to weak stocks by the flour-dredging method. This year I want to join two or three lots together and build up stocks from them by giving them combs and feeding up well, but I am not quite clear what to do in order to prevent an upset when dealing with more than one lot at a time. I will state my ideas and ask you to kindly point out flaws if any. I should drive two lots, then throw both lots on to a sheet and let them run up into a "Hudson's Soap" box, as described on page 295 of B.J. for July 23, having, of course, first taken away one queen. 1. Will this joining of two lots in each box work right without dusting the bees by the flour method, while they are running into the boxes? When home, I will run them in front of hives as I previously have done. 2. Can I use a skep—with clean combs in it two years old—for wintering two or three united lots of driven bees, if I feed them up with 20 lb. of syrup? I ask this because of being short of worked-out frames of comb. If it can be done I will make a frame-hive during the coming winter and set the skep and bees above the frames in spring for them to work down into the new hive. 3. Will a "Hudson's Soap" box be large enough to hold two driven lots?—"BATTLE," *Sussex, August.*

REPLY.—1. Yes, if properly managed, but if any difficulty occur use the flour again. 2. If combs are clean and healthy they will be very helpful for the purpose. 3. Yes, unless they are very large lots. You will soon see if there is room for the bees of a second driving after one lot has entered.

[1538.] *Uniting Driven Bees.*—I drove seven lots of condemned bees from an apiary 1½ miles distant from here the other day on the close-driving method, and let three lots run into a "W. B. C." hive, sprinkling them with flour as they entered, the other four lots being put into another "W. B. C." hive, flouring as before, but could not see a queen (the hives contain foundation and several combs wet after having had the honey extracted). Both hives showed signs of swarming to-day, and if they do I hardly know what will be the proper thing to do with them. I have another hive with foundation and two frames comb with a little honey. 1. Would you put a swarm into that or put the bees back again? I have "Modern Bee-Keeping" and the new edition of the "Guide Book," but I have not seen in either where it is explained how to unite driven bees. 2. Am I right as to the omission? I fully endorse the remarks of Mr. Brice on page 446 as to portrait of Mr. Cowan in "Guide Book," and will have one if it appears. I was under the impression that the frontispiece of "Guide Book" *was* the photo of Mr. Cowan.—NEMO, *Deddington, August* 27.

REPLY.—1. We have no doubt the bees will have settled down before this reply is in print if queens are safe. 2. The chapter on "Uniting" in "Guide Book," and further reference on page 140, we think, cover all the ground as to "Uniting."

[1539.] *Age of Queens.*—I see it often remarked in the BEE JOURNAL that "second-year queens are considered best." But I am at a loss to know how you calculate the age. Suppose a queen is hatched out this year, when do you consider she will be at her best? Your reply will be esteemed.—WM. SMALL, *Stonehouse, N.B., August* 27.

REPLY.—A queen is at her best in the second season of her egg-laying or ovipositing. In other words, suppose a queen is hatched in May, '96, she will commence her maternal duties in a week or so after birth, and before the end of the season will have become the mother of some scores of thousands of bees. After a short period of rest during the winter months, breeding again begins, and the queen starts egg-laying for her second season, and, though less than one year old in the spring of '97, she is a second-season queen, at her best during the whole of '97. Then, as her breeding powers are on the wane by the following swarming season of '98, she is considered "old," and needs replacing. This is about as clear a definition of a second-season queen as we can give.

Bee Shows to Come.

September 3.—At Castle Douglas, N.B. Galloway Horticultural and Honey Society. Open class for *Three* 1-*lb. Jars Extracted Honey.* 1st prize, 30s. and handsome silver medal; 2nd, 20s. and bronze medal; 3rd, 12s. 6d.; 4th, 7s. 6d.; 5th, 5s. Also open class for *Three* 1-*lb. Sections*, with four good money prizes, and in each case championship honours.

September 5.—Lancashire and Cheshire B.K.A., in connection with Bramhall and Woodford Horticultural Society. Annual show of honey at Bramhall Hall. Open to district and members of the L. and C. B. K. Association only. Schedules from secretary, J. Bell, Davenport, Stockport.

September 8.—At Moorgreen. Notts B.K.A., in connection with the Greasley, Selston, and Eastwood Agricultural Society. Open class for a 1 lb. bottle of honey. Schedules ready. Apply Geo. Hayes, Mona-st., Beeston, Notts. Entries closed.

September 9 and 10.—At Derby. In connection with the annual show of the Derbyshire Agricultural Society. Fifteenth Annual Show of the D.B.K.A. as above. Liberal prizes for bees, hives, and honey. Six of the eighteen classes are open to all comers. Schedules from F. Walker, Cattle Market, Derby.

September 15, at Blenheim Park, Woodstock.—Oxfordshire B.K.A. in connection with the Agricultural and Horticultural Society's Show, 12 classes for Honey, including two open classes, one for 12 1-lb Jars Extracted Honey (entrance fee 1s.), and one for Single Jar of Honey (no entry fee). Entries close September 12. For entry forms, apply E. F. Turner, 5, Woodstock-road, Oxford.

September 16.—Wotton-under-Edge B.K.A. Annual Show of Honey. In the Church Mill. Schedules from E. W. Read, hon. sec., Wotton-under-Edge.

September 26.—At the Corn Exchange, Jedburgh. Annual show of Roxburghshire B.K.A. Twenty-eight classes, all open to members free of entry-fee. Entries close September 22. Thos. Clark, secretary, Pleasants Schoolhouse, Jedburgh, N.B.

October 17, at the Town Hall, Rutherglen, N.B.—Second Annual Show of Honey, Appliances, Fruit, Vegetables, &c. For schedules, apply to John Stevenson, Secretary, Maryton Braes, Larkhall, N.B.

October 20, 21, 22, and 23, at the Royal Agricultural Hall, Islington, London, N. Twenty-first Annual Show of the British Dairy Farmers' Association. Eight classes for honey, with liberal prize money, and a class for interesting and instructive exhibits connected with bee culture. Entries close September 21. Schedules from the secretary, Wm. C. Young, 12, Hanover-square, London.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

H. R. (Herts).—*Dealing with neglected hives.*—Since the hives have been allowed to get into such filthy condition as described, it would seem as if burning the lot would be the best course. But nothing is said as to the bees? If the foulness of the combs is not the result of disease but of neglect only, it might be worth while joining two lots together and feeding up to enable them to build out new combs from full sheets of foundation before the warm weather goes. For the rest we can only advise complete destruction for all such combs as "full of great maggots and smelling very bad."

Cheshire (Tarporley). — *Dark honey for showing.*—So far as colour the sample sent would be all right, but the quality is hardly good enough to class its chances of winning as favourable. The aroma is poor, and flavour only third rate. In fact there is some "honey-dew" in it.

F. Derrick (Tenterden).—Honey sample is pretty fair in quality, though flavour is coarse and aroma poor. It is from mixed sources. We should judge it to be mainly from field beans from the flavour.

A. Conder (Ipswich).—No. 1, a very small Ligurian queen, looks like an unfertilised one, but too dry and shrivelled to judge correctly. Nos. 2 and 3 are smashed in part, but they seem to be the common bees of this country.

G. O. Bee (Littlehampton).—1. Foundation received has been made for use in supers, not for use in brood-nests, as your note implies. It is of good quality, but thicker than the best kinds of recent make, and there is no reason why bees should refuse it. 2. There is at present no Bee Association in Sussex, but bee-keepers located in that county can join the Kent B.K.A., of which Mr. H. W. Brice, the Apiary, Thornton Heath, is hon. sec.

A Novice (Doncaster). — *Mead, Honey-vinegar*—Several recipes for mead-making have appeared in our columns, a very good one being given on page 83 of B.J. for February 28 last year. The best method of making honey-vinegar is that given in the pamphlet published by the Rev. G. W. Bancks, Dartford, Kent. In moulding wax, the mould should be slightly damp when wax is poured in, and allowed to cool very slowly.

G. R. Catiro (Kirriemuir).—*Bee Books.*—The only "books on bee management" sent out from this office are "The Bee-Keepers' Guide Book," price 1s. 6d. (postage 2d.); and "Modern Bee-keeping," a handbook for cottagers, price 6d. (postage 1d.).

B'Attitude (Sheffield) —Suspected Disease in Comb.—We can see no very visible signs of foul brood in comb, but really the sample sent is so smashed up, foul smelling (not from foul brood), and altogether unfit for handling or inspection, that we must ask for a clean cut, fresh, and decent piece of comb before passing an opinion, on receipt of which we will gladly tell you of its real condition and give best advice we can.

Ten Year Old Subscriber (Wycombe).—Honey Sample.—Both samples are light in colour and quite good enough in quality to stage in competition for light honey.

J. Gaddes (Longtown).—*Honey Samples* — Both are good honeys and nearly alike. If anything, we prefer No. 2.

Boynton.—Sprig of leaves sent are not from the lime tree.

Special Prepaid Advertisements.

Situations, Publications, Bee Plants, &c. — Up to Twelve words, Sixpence; for every additional Three words or under, One Penny.

TWO STOCKS for SALE on Ten Frames. F. Morey, Ventor, I. of Wight. N 26

NEW BLOOD. — Tested QUEENS, 1s., post free. Brayshaw, Brixworth, Northampton. N 32

HEALTHY DRIVEN BEES, 1s. 3d. per lb., and their Queen; extra Queen, 2s., box returned. E. Garner, Broom, Biggleswade, Beds. N 22

WANTED, 1896 HONEY. Good 1-lb. Sections and extracted. Samples and price delivered to H. J. Wisbey, Whittlesford, Cambs. N 23

FEEDERS.—A few Abbott's 1s. 9d. Bottle FEEDERS, sent post free, 1s. 4½d. W. Shepherd, Oxton, Tadcaster.

GUARANTEED HEALTHY DRIVEN BEES, 1s. 3d. lb.; Three Stocks in skeps, from 25 to 30 lbs., 15s. each. Woods, Normandy, Guildford.

HEALTHY STOCKS, Bar Frames, 25s.; Young Queens, 2s. 6d.; Gilt Section Bands, 1s. 100. Wood & Taylor, Hathersage, Derbyshire. N 31

WANTED to EXCHANGE Bees in Bar-frame Hives or Skeps for BICYCLE, cushion or pneumatic. Butler, Stoke Prior, Bromsgrove. N 29

FOR SALE, SECTIONS of fine quality. Apply, stating quantities required, to Percy Wilkins, Belmont, Wantage. N 28

BEDFORDSHIRE PRIZE HONEY, 1 lb. glasses, 9s. doz.; 28-lb. tins 7d. per lb. carriage paid. Partridge, Stores, Harrold, Beds. N 25

HONEY.—Five doz. SECTIONS; also quantity of extracted Honey in 1 and 2-lb. glass jars, excellent quality. J. Lund, Corn Stores, Burnham, Bucks. N 24

FOR SALE, 8 doz. best quality SECTIONS, 7s. 6d. doz.; two cwt. good quality Extracted HONEY, 6d. lb. Cash or deposit. C. Adams, Weston Underwood, Olney, Bucks. N 33

NEW HONEY WANTED, any quantity, clean, well-filled and sealed 1-lb. Sections. State quantity and price for cash. Address, M. Charlton, Fruit Merchant, Fawcett-street, Sunderland. N 30

Editorial, Notices, &c.

USEFUL HINTS.

WEATHER.—We read in Tuesday's *Standard* that the last weekly weather report issued by the Meteorological Office, which gives the summary of rainfall, temperature, and bright sunshine to the end of August, shows that since the commencement of the year the number of rainy days is in excess of the average in the north and west of Scotland, but below the average in all other districts, the least number of rainy days in the whole kingdom being ninety-three in the south of England, while the largest number is 163 in the north of Scotland. The total rainfall for the first eight months of the year is 35 in., or 4 in. in excess of the average, in the north of Scotland, and 24 in., or nearly 1 in. in excess, in the north of Ireland.

So far as the weather now, it may be said that unless we have a speedy cessation of the almost daily heavy rainfall of the last fortnight, little or no addition will be made by the bees to stock of food on hand, and where there is any known scarcity of winter stores more or less feeding becomes an absolute necessity. Once this need is realised the sooner it is set about the better for the bees and all concerned. A wet and "growing" autumn usually brings a green summer, and so far as the pastures just now they are thick with bottom growth and full of clover root, this being about the only comfort afforded to the bee-man in such an autumn as the present.

THE HEATHER HONEY CROP.—We are not hopeful as to the honey crop from the heather this season, the frequent rains having sadly interfered with the bee-labourers at a time when every single day's ingathering is of so much value so far as the final result. We are the more sorry for this because of the evidence reaching us of a considerably increased interest taken this year by bee-keepers located within reasonable distance of the heath-clad hills. More samples have been sent us of bloom from the several *Ericas*, supposed to yield honey, by readers anxious about the right sort, than we remember before. Nor can we wonder at this. Good heather honey is, and always will be, "in demand." There need be no fear of an over supply of choice heather sections of comb-honey in the British market; they may be safely counted on to bring a good price even when the best comb-honey from other sources will only command a low figure. The reason is not far to seek. The special bee-product referred to above is, and will continue to be, regarded as a luxury for the breakfast table of the well-to-do, who never grudge paying a good price for what is so regarded. Moreover, there is the other advantageous feature of the case; good heather sections seem procurable only in comparatively limited quantity. Nor is there any reason to expect a change in this respect, in so far as moorland bee-pastures are much more likely to decrease than extend, and the increase of consumers will more than keep pace with increase in production likely to accrue from any addition of bee-keeping moor-men.

However this may be, we have thought it well, in order to meet the views expressed above, so far as showing the several kinds of *Ericas* indigenous to this kingdom—and by way of saving trouble to ourselves while conveying useful information to readers—to give illustrations, together with authoritative botanical descriptions of the three kinds of Erica (commons or heaths) usually found on the hills and moorlands of these islands. We place them in their order of merit as honey-producing plants, but bearing in mind that as *E. tetralix* (Fig. 3) grows only on damp bog-land, it cannot be regarded as of any practical value to the bee-keeper. The enlarged blossom of each variety, together with illustrations of the anther stigma, pollina, &c., at sides of each cut, are introduced to make plainer the structural parts of the flower and its fertilisation by bees.

Fig. 1.—Erica, or Calluna, vulgaris. (Ling.)

1. *Erica, or Calluna, vulgaris* (Ling), Fig. 1.—A low, straggling shrub, seldom growing more than a foot high. Leaves very small and short. Flowers small, and of a purplish pink colour, often pale approaching to white. *Erica vulgaris* is the most widely - distributed of all the heaths and very abundant.

Fig. 2.—Erica cinerea, or Bell Heather.

2. *Erica cinerea* (Scotch heath) Fig. 2.—More bushy and fuller than *Erica vulgaris*, leaves finer and more pointed, usually three in a whorl, with clusters of small leaves in their nails. Flowers a reddish purple, in twice terminal racemes. Covering immense tracts of country on the Scotch, Irish, Welsh, and some of the Western English moors.

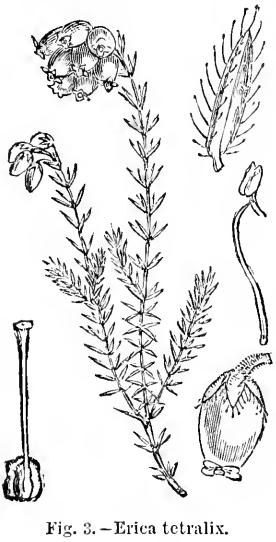


Fig. 3.—Erica tetralix.

3. *Erica tetralix* (Cross - leaved Heath) Fig. 3.—Generally lower than *E. cinerea*, bushy at base; short, erect flowering bunches, leaves in form shorter and less pointed than in preceding. Flowers rather larger and more pink in colour, forming little terminal clusters or close umbels. Ranges all over Britain, and very common in the West.

By preserving these illustrations, readers will be enabled to distinguish between the several heathers by comparing a sprig of bloom with the cuts. Elevation and soil, however, has apparently much to do with the quality of heather honey, that from the Scottish Highlands being undoubtedly best.

HONEY IMPORTS.

The total value of honey imported into the United Kingdom during the month of August, 1896, was £2,412.—*From a return furnished to the* British Bee Journal *by the Statistical Office, H.M. Customs*, September 7, 1896.

MID-LOTHIAN B.K.A.

The hall of the Cowan Institute, Penicuik, was on the 22nd ult. a scene of much attraction, the occasion being a triple exhibition by societies devoted to horticulture or the kindred study of bee-culture. The Penicuik Horticultural Society, bearing lightly its fifty odd years of existence, held its own annual exhibition, when at the same time it made the necessary arrangements for the show of the Mid-Lothian Rose and Pansy Society. It further acted as the host of the Mid-Lothian Bee-keepers' Association. The arrangements for the honey exhibition on Saturday were entrusted to the local secretary, Mr. T. H. Welsh, and were entirely satisfactory; 106 entries of honey were staged, the display occupying the whole of the platform side of the building. Lady Gibson Carmichael offered two handsome silver medals for competition, both being won by Mr. Weir, Heriot.

In the Society's classes the following awards were made by Mr. C. Chouler, Dalkeith Park, and Mr. Craig, Jedburgh, who officiated as judges of the honey section:—

Twelve 1-lb. Sections. — 1st, Mr. Weir, Heriot; 2nd, Mr. Craik, Dalkeith; 3rd, Mr. Brindle, Whitehill.

Twelve 1-lb. Sections Heather Honey.—1st, Mr. Craik; 2nd, Rev. J. W. Blake, Temple; 3rd, Mr. Weir.

Twelve 1-lb. Jars Extracted Honey.—1st, Mr. Weir; 2nd, Mr. Craik; 3rd, Mr. Marrs, Whitehill.

Best Super (non-sectional).—1st, Mr. Weir; 2nd, Mr. Marrs; 3rd, Mr. Headridge, Eskbridge.

Best Super (non sectional) Heather Honey.—1st, Mr. Craik.

Design in Honeycomb.—1st, Mr. Craik.

In the classes for members not owning more than three stocks in spring, prizes were taken by Messrs. Brindle; Mackay, Carnethy; A. S. Huth, Whitehill; Badger, Penicuik; Ford, Marrs, Watson, and Lawson.

Best Frame-Hive for Removal to Heather (made by an amateur).—1st, A. S. Huth; 2nd, Mr Brindle.

Honey Cake. — 1st, Mr. Weir; 2nd, Mr. Brindle.

The annual general meeting of the Mid-Lothian Bee-keepers' Association was held in the afternoon in the gymnasium of the Cowan Institute. There was a large attendance, and a satisfactory financial report was disclosed. Various technical matters affecting the Society

were discussed, and office-bearers were elected as follows :—President, J. W. Blake, M.A., Temple ; vice-president, Mr. Craik, Dalkeith ; secretary and treasurer, Mr. Weir, Heriot.—(*Communicated*)

HONEY SHOW AT DUNFERMLINE.

The Dunfermline and West of Fife Horticultural Society held their sixteenth annual autumn flower show in the East End Park on the 28th and 29th ult. It was one of the best exhibitions of flowers (and certainly the best for honey) the Society has ever had. The displays of honey from 30 lb. to 50 lb. was a new feature of the show, and attracted great attention, the judges declaring them excellent. Indeed, the whole of the honey staged was far above the average. There were sixty-four entries for the various classes. The Rev. Robert McClelland, Renfrew, and Mr. James Johnstone, Stirling, who judged the exhibits, made the following awards :—

Six 1-*lb. Sections.*—1st and 2nd, J. Heggie, Baldridgeburn ; 3rd, Andrew Chalmers, Oakley Station.

Six 1-*lb. Jars Extracted Honey.*—1st, J. Heggie ; 2nd, J. McDonald, Oakley ; 3rd, J. Heggie.

Two Shallow Frames of Honey.—1st and 3rd, J. Heggie ; 2nd, Thos. Brown, Baldridgeburn.

Super of Honey.—1st, Wm. Reid, Carnock.

Observatory Hive with Bees.—1st, J. Heggie ; 2nd, Wm. Reid.

Three 1-*lb. Sections and Three* 1-*lb. Jars Honey.*—1st and 2nd, J. Heggie ; 3rd, J. McDonald.

Single 1-*lb. Section and One* 1-*lb. Jar of Extracted Honey* (all for the Cottage Hospital).—1st, J. Heggie ; 2nd, J. McDonald ; 3rd, Thos. White.

Display of Honey 30 *to* 50 *lb. in weight.*—1st, Wm. Reid ; 2nd and 3rd, J. Heggie ; v.h.c., Mr. Cunningham, Kelty ; com., Mr. Cormac, Kelty.

COTTAGERS' CLASSES.

Three 1-*lb. Sections.*—1st, Thos. White ; 2nd, A. Chalmers.

Three 1-*lb. Jars Extracted Honey.*—1st, J. Hamilton, Inzievar Lodge ; 2nd, Thos. Brown.—(*Communicated.*)

GALLOWAY HORTICULTURAL AND HONEY SOCIETY.

SHOW AT CASTLE DOUGLAS.

The annual show of the above Society was held on the 3rd inst., and is regarded by all concerned as a very complete success. The Castle Douglas honey show has long been regarded as one of the most important held in Scotland, and this year it appears to have maintained its reputation, the honey department proving one of the most attractive in the whole exhibition. The first two classes in the prize list which follows are, for some reason, called "Champion Classes," and in these the competition was very keen. But the whole of the exhibits staged were regarded by the judge as of the highest quality.

The Rev. R. McClelland, of Renfrew, again undertook the duties of judging the honey, and made the following awards :—

Three 1-*lb. Jars Extracted Honey* (other than heather).—1st, J. Richardson, Trailflat, Shieldhill ; 2nd, W. Hogg, Castle-Douglas ; 3rd, W. H. Woods, Hemingford Grey, Hunts. ; 4th, T. Myers, Castle-Douglas ; 5th, W. Callender, Clarebrand ; v.h.c., A. Maxwell, Dumfries ; h.c., W. Raphael, Kirkandrews ; c. R. Ness, Helmsley, Yorks ; Sam. Gass, Kirk Patrick-Durham ; Ross and Kerr, Dumfries ; T. Myers ; Jas. Austin.

Three 1-*lb. Sections.*—1st, Jesse Garratt, Meopham, Kent ; 2nd, J. Richardson ; 3rd, A. Maxwell ; 4th, W. H. Seymour ; v.h.c., Sam Gass ; h.c., A. Irving, Annan ; c., Ross & Kerr ; W. H. Woods, W. Hogg, and J. Waugh, Newabbey.

Best Super.—1st, W. Hogg ; 2nd, S. M'Monnies, Bridge-of-Dee ; 3rd, J. Skelton, Leicester.

Three 2-*lb. Sections.*—1st, W. Hogg ; 2nd, J. Learmont, Balmaghie ; 3rd, S. M'Monies ; h.c., T. Myers.

Six 1-*lb. Sections.*—1st, W. Hogg ; 2nd, S. M'Monies ; 3rd, J. Learmont.

Six 1-*lb Jars Extracted Honey.*—1st, S. M'Monies ; 2nd, W. Callender ; 3rd, W. Hogg ; h.c. and c., T. Myers ; c., J. Johnstone, High Park.

Three 1-*lb. Sections.*—1st, J. Henderson, Maxwelltown ; 2nd, J. Johnston ; 3rd, Miss Johnston ; h.c., James Austin ; c., James Day.

Three 1-*lb. Jars Extracted Honey.*—1st, J. Henderson ; 2nd, T. Veitch, Spottes ; 3rd, J. Johnston ; h.c., W. Muir ; c., W. Callender and G. Benson.

Three 1-*lb. Jars Extracted Honey* (non-prize-winners only).—1st, W. Callender ; 2nd, T. Veitch ; h.c, W. Walker, Tongland ; c., James Day.

BEES AND LIME TREES.

A correspondent sends us a cutting from *The Field* of August 29, referring to bees and certain lime flowers, which reads as under :—"I have read with interest of the bumble-bees being found dead under lime trees in flower. We have at Rainworth a good many lime trees of various sizes ; these generally have many flowers on them, and are frequented by bumble-bees, yet only under one lime are they found dead. On either side of the entrance gate are lime trees, which form an arch covering the gate and carriage drive, and it is under one of these that every year great

numbers of bumble-bees and a few hive-bees are seen lying dead; and, though these two trees are close together, I have never found one bee dead under the one on the left hand side of the gate, or under any of the other numerous limes dotted about the house and grounds.—J. WHITAKER, *Rainworth, Notts.*

"The note of Mr. F. Boyes is interesting, but he is undoubtedly wrong. These bees have not died under the ordinary lime trees, but they died in hundreds under the white lime trees (*Tilia petiolaris*); and as it was not at the end of summer, but just as the flower was in perfection, I think there can be no doubt that the honey poisons them. It seems to have no ill effect on any other insect. There have been, and still are, plenty of other flowers to support the bees, nor has there been any cold at night to injure them; and, since the flowering of the limes is over, no more have died under them. MEDWAY."

We do not remember the question having been raised before, but there can be no doubt that the blossom of ordinary lime trees is in no way injurious to bees.—[EDS.]

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

QUEEN-RAISING

BY ARTIFICIAL INCUBATION.

[2610.] I beg to thank you for the answers to my questions on queen-raising in your issue, Aug. 13 (query 1,527, p. 327). And as you expressed a desire in your reply to know the result of the artificial incubation, I write to say that it has not turned out very satisfactorily. I think, however, that my want of experience is to blame for this. As stated in my previous letter the queens hatched out in nineteen to twenty days, and I kept the frame in the hot-water nursery until the worker-brood hatched out, which was in twenty-five to twenty-six days. Both these times are in excess of that stated in the *Guide Book*, but it is quite possible and likely that my temperature of about 85 deg. was somewhat low, and might retard hatching. The queens were small, and I did not like the look of them, so decided not to use them.

Another plan I tried for getting queens was as follows:—

I selected a strong stock, and finding the queen, put her with the comb she was upon along with another comb of the youngest brood in the hive and a third frame of stores. All three combs were placed in the front of the hive, the stores being next the entrance (the hive was the "Combination" one). I then put in an adapter, *i.e.*, a dummy made of excluder zinc, so as to keep the queen on the front three frames. In nine days all the brood in the frames behind the adapter were sealed over. I then took away the three front frames with the queen, and in about two days inserted a frame of eggs and got queen-cells by this plan. I kept the queen laying on the front frames, and the bees worked on as usual. The only objection was that the drones were confined for the nine days, but I did not notice any trouble from that fact. 1. Do you see any objection to the above plan?

Another matter which has bothered me has been the failing of queens to mate. Although drones were flying, I have had two virgin queens over a month in three and four frame nuclei, and they have never laid an egg. I have killed them and united bees to other hives. I should be pleased if you would say, 2. What you consider the longest time that virgin queens should be kept if they do not begin to lay? 3. What is the cost, delivered here, of imported Carniolan queens? I had the slow-feeding bottle on with one hole only exposed.

Many problems that arise in bee-keeping are abstruse and subtle, while at the same time very fascinating. I am only a learner and a beginner, but to give up keeping bees would be the greatest trouble to me.—LEARNER.

[1. No, so long as the queen and bees removed were judiciously dealt with. The value of the plan must, however, be gauged by the general result. 2. Much would depend on the suitableness of the weather, together with the general surroundings, favourable or otherwise, so far as mating. Starting with the fact that a virgin queen ought to be laying in about seven days after hatching, the time for *killing off* as failures is entirely one for the bee-keeper after the normal time has expired. 3. We do not know the price charged for Carniolan queens; probably it will be about same as that of Ligurians.—EDS.]

DEALING WITH FOUL BROOD.

[2611.] For two years I have contended against the bee-keeper's enemy, foul brood, and after destroying several weak lots of bees, and giving naphthol beta and naphthaline perseveringly in the proportions you direct, I have driven the enemy away. To any one who, like myself, has not been a bee-keeper long the discovery of foul brood is most discouraging; but it evidently can be got rid of, though it requires time and patience. I used to take combs from strong hives and give them to weak ones; but this has been the

cause of mischief, I think, though it was only honey and not brood. Is it not possible that the spread of foul brood is partly due to the ease with which one can transfer bees from hive to hive and from place to place? I am not able to say whether much disease existed years ago, when bar-framed hives were the exception and bees were generally killed with sulphur; but at all events the skeps were disinfected to a certain extent with unfailing regularity before the next lot took possession. Then again, the combs were never kept as long as we are tempted to keep them in the modern hive; nor was there danger of chilled brood. In my own case foul brood broke out in some old combs, and I am inclined to think it originated there.—W. S. TRAPP, *Marsham, Norfolk, September* 3.

[There can be little doubt that the periodical destruction of bees and combs—as practised by the skeppists of the old school—did tend in a great measure to limit the spread of disease. The knowledge of this fact ought, therefore, to stimulate the frame-hiveist—with his increased facilities for detecting the mischief—to deal out the same destruction whenever disease is discovered.—EDS.]

CARNIOLAN QUEENS AND ENGLISH QUEEN-BREEDERS.

[2612.] As the remarks of "A Queen Breeder," (2608, p. 355), are well pointed and sharp I ought not to let them pass without a word in reply. The writer seems to know quite well what kind of queens I purchase, and also concludes that all purchases will include a guarantee of fertility. I may say, however, that some queens I have purchased with this guarantee did not fill it, and would have been improved—had the chance occurred—of a mating-trip with some of the descendants of the "imported insect" which I got from abroad. If this is not plain enough for the writer of 2608, and my inference is correct, I will say that in August of 1891 or '92 I purchased a queen (with guarantee of safe arrival, fertility, and safe introduction), on certain terms, but after the queen had been in the hive twelve days and no brood was visible, I began to suspect something wrong, and eventually she turned out a drone-breeder. This queen was not put among my own bees, but into the hive of a friend, and so the position began to be rather awkward for me so far as getting justice, but by a little stratagem which some "breeder" may find in his sale-book of that date (if he has it still by him) he got the drone-breeding queen and I got a fertile one instead! Regarding so-called Carniolan queens generally, he says: "And should it happen that the (untested) queen had not a native drone, of course her bees would be dark and scarcely as amiable as natives." Why, mine were scarcely as amiable as wasps!

In his concluding paragraph, "A Queen-Breeder" shows some interest as to why English-bred mismated queens should be worse than my own mismated ones. Well, I can only give my experience of the queen sent me. Her progeny did not seem to care particularly about work, but employed their time in using their spears just as savages do, whereas mine—bred from the foreigner—have always been gentle as any bees I have ever seen.—THOS. KENDALL, *Kirkby-in-Furness, September* 7, 1896.

P.S.—I had one good queen out of three from the dealer I have mentioned.

BEE NOTES FROM DEVON.

EFFECT OF ELEVATION ON QUALITY OF HONEY.

[2613.] On an isolated farm in Dartmoor at about 1,000 ft. elevation, a colony of bees has been established in the trunk of an old ash tree near the farmyard for fully twenty years.

My own knowledge extends to twelve of this period, and from inquiries I have made I am convinced it must be quite that time, if not more, that they have existed.

When one takes into consideration the short summer there, together with the severity of the climate and the heavy rainfall (I believe it approaches the maximum for England), it speaks well for the hardiness of the native race that they have managed to hold their own during all that length of time. Last week they threw off a strong swarm which have established themselves under the roof of the farmhouse, and were on Sunday, when I saw them, busy with the heather, which is just now in its prime.

The honey-take this year will be exceptionally heavy in my immediate neighbourhood, *i.e.*, on the border of Dartmoor, though the drought has been unprecedented. I have had an occasional section of dark honey in some of the racks, but, as a rule, I think it is of fine quality.

Last year there was some discussion in your columns on the relative merits of Southern compared with Scotch heather honey. May it not be, perhaps, a question of elevation in a great measure? Mine is gathered at from 1,200 to 1,400 ft. above sea-level, and I will gladly forward a sample if of interest to you. —R. S., *Devon.*

[We shall be very pleased to receive a small sample of the honey referred to for comparison.—EDS.]

A REMEDY FOR STINGS.

[2614.] Though not requiring the use of any antidotes against disagreeable results, being almost bee-proof, having only to extract the sting and be done with it, I know others who are not so fortunate. To these

I would recommend the following simple "cure" :—Get some bicarbonate of soda, and, when stung, having first extracted the sting, apply a little extemporaneous moisture to the finger, which must then be dipped in the powder, and this rubbed well into the wound. I have it, not only on report, but from personal observation on one who formerly suffered terribly from the after effects, that this course of treatment is very effective.

Syrup Cosy.—Experienced bee-keepers know how important it is that the bottle should be kept warm, and they always pack over carefully with felting, carpets, and other convenient materials; but these, unless we have a big stock on hand—and a big apiary would require such a stock—do not always have the wished-for effect. Knowing this, and that many complaints reach me about this time that the bees refuse to take down syrup, although stores are short, I venture to submit to you a very simple contrivance which costs next to nothing. Get a 4-lb. treacle tin, and hammer down the rim on which the lid fits. Line it round the sides, and on what will now be the top, with wadding, and slide over the bottle. *Voilà tout*, and there's a perfect "cosy."

N.B.—I claim no originality for the idea, and no doubt many will know of a similar contrivance; but I offer it for what it is worth. —FREDERICK H. TAYLOR, *Fallowfield, Manchester, September* 5.

BROODLESS BUT NOT QUEENLESS.

[2615.] Ten days ago, on examining six of my hives, I found that four of them, though crowded with bees and having plenty of stores, were absolutely broodless. Not thinking it likely that they were queenless, I put on feeders and began slow feeding almost nightly in order to induce the queens, if present, to lay, so that there might be a crop of late-hatched bees ready for duty next spring. On seeing your reply to F. Bridgett, on page 350 of JOURNAL, I at once resolved on a further examination of these four hives as soon as possible. This was accomplished on August 31. In the first a few eggs and the queen were seen, in the second and third eggs only, while in the fourth I am almost prepared to state that there is not a single egg or larva, and no sealed brood; but I found the queen. This queen is one raised by myself last season, so cannot be worn out; moreover, if old she might have laid drone eggs. Again, on Saturday last I drove two skeps of bees for a neighbour, intending to unite them and place them in a frame-hive, and also to tie any into frame-comb containing brood. In driving, both queens were caught and removed; in each case they were young queens, but not a particle of brood in any stage could be found in the combs. Both the skeps were strong in bees, and had a considerable quantity of honey.

Of course, I know that the amount of brood in a hive at this time of year is usually small; but I send these particulars, as I venture to think that its entire absence, with fertile queens in the hives—which I can vouch for in every case mentioned—is somewhat rare.*

Excreta of Queens.—I see that it is stated, page 112 of Cowan's "Honey Bee," that the fæces of a queen "are liquid and of a pale yellow colour," and also that, "according to Vogel, they are sucked up by the workers." I have recently had an opportunity of confirming this. Having a queen and some workers in a box one evening, I saw her void fæces which were as described—liquid, though by lamplight the colour appeared to me to be white; in fact, exactly the appearance of a drop of water. The workers immediately closed round the drop, and removed it entirely in a very few minutes with their tongues.—PERCY SHARP, *Expert to the Lincs. B.K.A., Brant Broughton, September* 1.

* [We are not quite clear as to what is intended to be conveyed by this paragraph of our correspondent's letter referring to the absence of brood in August. To say that the entire absence of brood along with fertile queens in hives at this season is somewhat rare, is to agree with our reply on page 350, and yet the general tenor of the above communication seems to question the correctness of our view. Are we right in this inference?

For the rest, we should judge that the early cessation of honey income, which, we learn, has been the case in Lincolnshire this year, must be held accountable for the stoppage of breeding in the cases mentioned.—EDS.]

THE DAIRY SHOW

AND INTENDING VISITORS.

[2616.] With reference to the suggestion as to intending visitors to the Dairy Show, I think it is too much to ask our kind Editors to publish in the B.B.J. a list of all bee-keepers who intend to go to the show in October. What I do suggest, however, is that all bee-keepers arrange to visit the Agricultural Hall on the same day, say, on the second day, Wednesday, October 21, and that it be understood that the question, "Who are you?" be not considered impolite by the party questioned.—R. DYMOND, *Southgate, September* 7.

BEE-DRIVING EXTRAORDINARY.

AN EXPERIENCE OF A THIRTY YEARS' PRACTICAL BEE-KEEPER.

[2617.] To the best of my recollection it was in the year 1869, long before modern bee-hives were in use in the Eastern counties, that I had the most extraordinary, and in some way disastrous, experience of bee-driving that I have ever known or heard of,

and it may, perhaps, amuse your readers if I relate the actual facts as under :—

I had then been a bee-keeper for only about two or three years, and, consequently, had only a small part of the experience I now possess. Having been asked by a friend if I would assist him in driving some bees, I readily assented, and went down to his cottage the following evening as appointed. The weather at the time was very unsettled, heavy clouds being seen travelling through the air; and, as rain began to descend, my friend suggested that we should remove the bees into the back room of the cottage, and thus be undisturbed by the elements. The bees were accordingly removed indoors, and a very few minutes found me sitting on the floor with a pail between my knees in which was placed the full skep, and above it an empty one for the bees to run into. After tying a cloth round the junction of the two skeps—in those days the plan followed was that known as "close" driving—I commenced "drumming" on sides of the lower skep. My friend, at this time, ventured outside to see what the weather was like, and on returning, remarked, "My eye, we shall get it in a minute!" and we did, indeed, "get" it, in a way not anticipated.

The room was now almost dark, the storm that had been for some time threatening having burst in sudden fury upon us. I was still at my task of "drumming," but by some mishap the binding round the two skeps had slipped, and the topmost hive had shifted its position sufficiently to allow the bees to escape! Standing at my elbow was my friend looking on, while leaning leisurely against a large tub, two-thirds full of soap suds—it was washing day, and the utensils had not been cleared away. In less time than it takes to relate, several bees had made their exit from the skeps, and one settled itself behind my friend's ear. With an oath he yelled out, "I'm stung!" and made a rush from the room, pulling over the tub-full of "suds" in his haste to escape, and I found myself deluged in dirty water!

Nor was this the worst. In the hurry to get away his foot caught the pail, and the two skeps were knocked apart, while the room swarmed with bees! His better-half and several friends rushed in from the other room to see what was amiss, only to beat a hasty retreat, considerably the worse for their visit. Never shall I forget that scene; what with the flashing lightning, the pealing thunder, and the cries of the victims of the bees' stings, mingled with the buzzing of the flying bees, it was indeed one to remember. All were stung more or less, I myself suffering considerably. Indeed, the next morning my worthy friend, who had been the chief cause of our misfortune, was past recognition. I sat and chatted with him, poor fellow. He could not see me: his eyes were completely closed for the time from the effect of the stings. He tried to speak calmly on the subject of bee-driving generally, but I fear his remarks were too forcible for publication. Like myself, he to this day well remembers that interesting episode of bee-driving 27 years ago.—ANOTHER NORFOLK DUMPLING, *Norwich, September* 3.

WEATHER REPORT.

WESTBOURNE, SUSSEX, AUGUST, 1896.

Rainfall, 1·91 in.	Below Average, 38·9 hours.
Heaviest fall, ·80 on 30th.	Mean Maximum, 64·7°.
Rain fell on 14 days.	Mean Minimum, 49·1°.
Below average, ·62 in.	Mean Temperature, 56·9°.
Maximum Temperature, 74° on 12th.	Below average, 2·1°.
Minimum Temperature, 44° on 28th.	Maximum Barometer, 30·35° on 11th.
Sunshine, 170·2 hours.	Minimum Barometer, 29·70° on 26th.
Brightest Day, 16th, 11·5 hours.	
Sunless Days, 2.	

L. B. BIRKETT.

Queries and Replies.

[1540]—"*Driving*" *Mishaps.*—Kindly give me an opinion on the following unsuccessful "driving" case :—

We were to drive two stocks in a cottager's garden. The day was showery and windy, the time about 4 p.m. I am of opinion we drove the bees too near the apiary, as there was a good deal of robbing going on. The first stock gave some trouble for various reasons, but the second lot left their hive very quickly; more readily than usual perhaps. There was plenty of honey and brood in the old hive. As many of the bees seemed to be gathered on the old stand, we placed the driven bees on it in hope of their going up and joining the rest. We then cut the combs out of the old skep, and just at the end of this operation, quite unexpectedly, the queen was observed alone on the side of the skep. We took her carefully to the driven bees, and she quickly ran into the skep. We then left the garden for half-an-hour, and on returning to pack up we were dismayed to find nearly all the bees had left the skep without any one noticing it. The floor board was still pretty thick with strangers and stragglers, among whom we noticed a small ball of perhaps a dozen bees. On disturbing them we found what we believe to be the queen dead or nearly so. The bees let go her body very unwillingly. What had become of the rest of the bees I cannot say, though there was some excitement at the doors of the neighbouring hives. I have my own ideas as to this

untoward experience, but should be glad to have your opinion.

Is there any branch of the B.B.K.A. in Devon? If not, what would be the best way to start one?—A. W. BARKER.

REPLY. — In driving cottagers' bees, if several stocks are to be "taken," it is always best to carry the stock to a quiet, shady corner, as far away from the bee-stands as convenient. On such unfavourable days, too, as the one referred to, when no bees are flying, it is advisable to confine the bees of all stocks, except the one being operated on, by covering the entrances with wire-cloth or perforated zinc. An empty skep must also be at once set on the stand from which the bees are removed, to gather in any that return to the old spot.

In the particular case referred to above, and before venturing an opinion, we should have been told what was done with the first lot driven, because we suspect the bees of that lot had something to do with the "balling" of the second queen when she was returned to the hive. We say this because, under the condition stated, it is very unusual for driven bees to fly off and leave their queen balled on the floorboard. It strikes us the deserters were unaware of the presence of their queen, and departed accordingly. Anyway, it is evident the poor queen, on being run into the hive, was at once seized and balled by alien bees. There is no county B.K.A. in Devon, though there was one a few years ago. The question of a revival has been mooted several times in our pages, but it wants a few active spirits apparently to take the matter up before anything tangible comes of it.

[1541.] *Transferring in Autumn.—Queen Introduction with Skeps.*—1. Is it too late in the season to transfer bees from a straw skep into a frame hive if I fitted with full sheets of comb foundation and give the[illegible]bout 30 lb. of syrup? 2. I had a swarm [illegible] spring [illegible]iven me late last year; not a very s[illegible]tt, on page [illegible]d the skep was very old and fra[illegible]ved on a fu[illegible]m well, but they neither swa[illegible]r hives as [illegible]e much honey this year. I ha[illegible] accompli[illegible] them into a new skep with comb [illegible]ation, and am giving them as much syrup as they can take. Will it be advisable to give them a new queen, and, if so, how am I to do it?—W. SMITH, *Row, N.B., September* 5.

REPLY.—1. It is decidedly late to put bees into an empty hive and give them new combs to build out in September; but if the bees are now strong in numbers and you confine them to about four frames, they may do all right with liberal and judicious feeding. 2. If the bees have not progressed well this season, it may be fairly assumed that the queen is at fault and needs replacing by a young prolific one. Introducing alien queens into skeps is, however, so much more difficult than when frame-hives are used, that we should recommend enlisting the help of some experienced hand before attempting it. The bees would need to be driven from skep, the queen captured, and while the driven bees were out of their domicile, the new queen is caged on a comb with honey in reach. The bees are then returned, and in thirty-six hours the queen released. If this plan could not be carried out, she would have to be secured in a suitable cage and set over the feed hole in skep, and the bees allowed to release her themselves by eating away the intervening food placed between her and the bees.

[1542.] *Dealing with Diseased Stocks.*—Having among my seven stocks one hive which is more or less affected with foul brood, I got the bees off the combs into a skep, after which I destroyed the inside boxes and their contents—frames and all. I next washed the outer cases, roof, and all remaining parts with strong carbolic acid solution, and in three days I shall put the bees into new inner-boxes properly prepared, and feed well with medicated syrup. There is no trace of the disease in my other hives. I also intend to extract all combs with honey but no brood from the other six, and supply medicated syrup in its place. Will my plan of procedure be likely to rid me of the mischief?—S. CHURCH, *Nantwich, August* 1.

REPLY.—If thoroughly carried out, the plan proposed should effect all the good possible under the circumstances.

[1543.] *Honey as Bee Food.*—1. I have a good deal of well ripened honey from old straw skeps, very good, only flavouring of bee-bread. Would it be equally good to feed driven bees up with this instead of syrup? 2. Could one medicate it by adding naphthol beta? 3. Would the bees find it easier to draw out foundation with this honey than with syrup?—Rev. MARCUS OSMASTON, *Dover, September* 5.

REPLY.—1. Yes. 2. It would require thinning down with water and heating before the solution could be properly mixed with the honey. 3. No doubt they would be saved the labour of evaporating the excess of moisture in syrup.

[1544.] *A Cottager's Queries.*—I ask if you will kindly give me a little information through your BEE JOURNAL. I am only a cottager, but am greatly interested in bees, and have kept them for a long while in old-fashioned ways in skeps. I have now five skeps and three boxes, one box being full of honey, but I can't take the frames out because the bees have built combs cross-ways. 1. Will it strengthen or injure them to let it remain as it is? I only had one swarm this year, and very little honey. 2. Could I drive the swarm and put the bees back to the parent stock, or drive both and sprinkle with flour when joining the bees together? The swarm weighs 50 lb., and is a fine stock; but if you

think it best I would keep it for swarming if I could get an early swarm from it. Which way do you think would pay best?—SAMUEL HALES, *Brown's Farm, Stack, September* 6.

REPLY.—1. We advise you not to disturb the box of combs built "cross-ways." It is too late in the season for you to undertake the job of cutting out transferring combs into frames, and besides you might easily ruin the stock in the attempt. Write us again in the spring to say how the stock is getting on, when we will advise you. 2. If the young queen at head of parent stock is prolific, and the bees and combs healthy, we would "drive" the swarm and "take" the honey, which if 50 lb. gross should yield over 30 lb. net. Capture the old queen when driving, but do not kill her till the bees have been safely joined to the parent stock. In uniting, dust the bees with flour while on the combs, then shake them off in front of entrance, and when half of them have been thus treated throw the driven bees, after dusting them too, on to the others, and let all run in together. Next day see that the queen is safe; if not, return the old one.

Bee Shows to Come.

September 15, at Blenheim Park, Woodstock.—Oxfordshire B.K.A. in connection with the Agricultural and Horticultural Society's Show, 12 classes for Honey, including two open classes, one for 12 1-lb Jars Extracted Honey (entrance fee 1s.), and one for Single Jar of Honey (no entry fee). Entries close September 12. For entry forms, apply E. F. Turner, 5, Woodstock-road, Oxford.

September 16.—Wotton-under-Edge B.K.A. Annual Show of Honey. In the Church Mill. Schedules from E. W. Read, hon. sec., Wotton-under-Edge.

September 26.—At the Corn Exchange, Jedburgh. Annual show of Roxburghshire B.K.A. Twenty-eight classes, all open to members free of entry-fee. Entries close September 22. Thos. Clark, secretary, Pleasants Schoolhouse, Jedburgh, N.B.

October 17, at the Town Hall, Rutherglen, N.B. — Second Annual Show of Honey, Appliances, Fruit, Vegetables, &c. For schedules, apply to John Stevenson, Secretary, Maryton Braes, Larkhall, N.B.

October 20, 21, 22, and 23, at the Royal Agricultural Hall, Islington, London, N. Twenty-first Annual Show of the British Dairy Farmers' Association. Eight classes for honey, with liberal prize money, and a class for interesting and instructive exhibits connected with bee culture. Entries close September 21. Schedules from the secretary, Wm. C. Young, 12, Hanover-square, London.

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

L. S. (Elstow).—*Experts and Antiseptics.*—The communication received conveys ideas so utterly inconsistent with the position held by our correspondent that we decline to publish it in our columns. In other words, when it is known that all the leading members of the medical profession invariably use antiseptics in surgical cases, and fully realise the enormous advantage thus gained in subduing the mischief which would otherwise result from disease germs, it is absolute folly to argue—as our correspondent does—that all scientists are wrong, and that he is right. In fact, it reminds one of the wise person who, not many years ago, proved to his own satisfaction that the world was not a sphere at all, but perfectly flat! It will be remembered, too, that this same gentleman, having the courage of his convictions, offered a large sum of money to any one who could prove him in the wrong! In the end, one of the things proved was the truth of the remark that all men are more or less mad on some point, and we may be allowed, without offence, to advise our correspondent to be careful, lest antiseptics prove *his* weak spot. Seriously, however, we do not here enter into the question whether any one can retain the certificate of the B.J plen[illegible] under such conditions as have aris[illegible]. As ma[illegible]case, seeing that the matter may[illegible]l on the [illegible]th later on by the body most dire[illegible]bees on it in[illegible] the rest.

L. ANDRÉ[illegible]. *Bee-candy.*—1. We cannot think t[illegible] s[illegible]u have adhered closely to instructions for making soft candy given in "Guide-book," seeing that samples have been sent here—made from the same recipe—of as good soft candy as could be wished for or made. That sent is just as granular as if the sugar had not been boiled at all, and we cannot wonder at the bees carrying it out. 2. Mr. R. Hefford, Boughton, Northants, is secretary of the Northants B.K.A., and will supply you with all particulars as to membership.

NOVICE (Liskeard).—*Sugars for Bee-food.*—1. We should on no account use beet sugar for bee-syrup. Of the other two kinds, No. 1 is known as icing sugar, and even if "pure cane," as stated, is not so suitable for the

purpose as fine white crystals. 2. No sugar does well for "dry feeding" but that known as Costa Rica, and it is very difficult to obtain. 3. We would dispense with dry sugar feeding when syrup is being given to bees. 4. Yes.

BOYES (Ryegate).—*Buying Ligurian Queens.*—We have known queens to be received by post from the breeder named (Silvio Galletti) in eight days after writing. But the time cannot be relied on to a day or two. Our preference would be for two queens rather than a queen and 1-lb. of bees at same price for each, if good stocks are on hand for introducing them to.

H. L. (Wadebridge). — *Destroying Wasps' Nests.*—If convenient to get at, a pint of gas tar or of paraffin oil poured in at entrance (covering the latter with a clod of earth) will generally put an end to the nest at this season. Cyanide of potassium will destroy the nest in a minute or two, but needs care in using.

J. S. L. (Salop).—We are sorry to say our space is too much occupied at this season for reports of shows where only three small prizes are awarded for honey.

A. VALLET (Cardiff).—*Doolittle's Queen-cell Protector.* — This useful adjunct to the queen-raiser's "tools" is simply a wire cage made sufficiently large to encircle the cell and protect it from being torn down or the queen damaged by the bees. We do not know if any of our dealers make or stock these cell-protectors, which are in common use in America.

G. L. L. (Weybridge)..—Wax from old combs—which always melts down "very dark in colour"—cannot be made light, but may be improved in colour by pouring it into cold water while hot. Some clarify it by adding a few drops of oil of vitriol after the wax has boiled for a few minutes.

H. M. W. (Dover).—Honey sent is of excellent quality, and 50 lb. of such from a swarm hived on June 1 is obviously a very good result. Full particulars of the advantages of membership of the Kent B.K.A. will no doubt be forwarded on application to the hon. sec., Mr. H. W. Brice, the Apiary, Thornton Heath.

H. NEVE (Heathfield). — *Heather Honey in Sussex.*—The sample of this honey in comb is excellent in colour and consistency, while the flavour is *good*.

A. B. C.—(Cambs.). — *Pollen Combs.* — Any unused pollen in combs will become hard and unfit for use next year if kept till then; so if many cells are filled by it we should melt the combs down.

J. O. W.—Both samples are very fair in quality, but flavour is not very good, especially that of No. 1, which is a bit rank or coarse.

T. W. (North Lonsdale).—*Non-sectional Supers.*—See reply to 2,601, page 345, of issue of August 28.

W. LIDGEY.—So far as household use, the honey is perfectly good and wholesome.

Special Prepaid Advertisements.

Situations, Publications, Bee Plants, &c. — Up to Twelve words, Sixpence; for every additional Three words or under, One Penny.

WELL-FILLED SECTIONS for SALE. Apply A. GODSLAND, Bovey Tracey, Devon. N 34

GUARANTEED HEALTHY DRIVEN BEES, 1s. 3d. lb.; packing case, 1s. WOODS, Normandy, Guildford. N 40

STRONG STOCK ITALIAN BEES for SALE. Particulars on application. CLARKSON, Church-street, West Hartlepool. N 35

HONEY WANTED. Send sample and price to J. J. W. ROGERS, Bernard-street, St. Albans, Herts. N 37

WANTED, Press complete, for Heather Honey. "Garstang" preferred. Price and particulars to J. MACDONALD, Bonaly, Clynder, Roseneath, N.B. N 36

GOOD CLOVER HONEY for SALE, in 1-lb. Sections. C. MILBURN, Holborn, Lowick, Beal, Northumberland. N 45

TWO PAIRS BLUE TURBITS, 6s. EXCHANGE for Driven Bees or Books.—6, Totteridge-road, High Wycombe. N 43

TWENTIETH YEAR.—Pure Black '96 Tested Queen, 3s. 6d. delivered; with Swarm, 5s. on rail. ALSFORD, Expert, Blandford. M 85

BEAUTIFUL HARDY PLANTS. Specially marked list, showing the best kinds to grow for Bees, sent on application. HARBORNE PLANT CO., Birmingham. N 38

HEALTHY DRIVEN BEES, 5-lb. lots or over, 1s. lb., including Queen (Skeps 2s. extra). Spare Queens 2s. each, post free. R. NESS, Sproxton Apiary, Helmsley, York. N 46

SURPLUS BAR-FRAME STOCKS, 25s.; 16-oz. Screw-top Bottles, 2s. dozen; Gilt Section Bands, 1s 100; Clover and Heather Honey. WOOD & TAYLOR Hathersage.

CHOICE 1896 Natural-raised English QUEENS. I can send by return post, at 3s. each. Safe arrival guaranteed, and healthy. A. J. CARTER, Newfields Apiary, Billingshurst, Sussex.

STRONG STOCK HYBRID LIGURIANS, fertile 1896 Queen, with Frames and Honey complete for wintering, £1. Also "Little Wonder" Extractor, nearly new. What offers? Mrs. BRUNE, Rowner Rectory, Gosport, Hants. N 44

GARDENER, incapacitated from very arduous work by injury, seeks position of responsibility. Age 33; married. Advertiser is a Certificated Expert of the B.B.K.A. and has a good general knowledge of all branches of agriculture. Recommended by late employer. GARDENER, *B.B.J.* Office, 17, King William-street, Strand, London, W.C.

FOR SALE, 50 well-filled Sections, slightly coloured; 25 well-filled Sections, first grade; 1 glazed Super, about 28 lbs., awarded first prize in strong competition; 4 Straw Supers, about 9 lb. each; 10 strong, healthy Stocks in large Straw Hives; 6 strong, healthy Stocks on Bar Frames; 20 Bottles fine Extracted Honey. Full particulars on application to H. LINSTEAD, Garboldisham, Norfolk. N 39

Editorial, Notices, &c.

SENDING HONEY TO SHOWS,

AND CHEAP RATES FOR HONEY, ETC. BY RAIL.

At the monthly meeting of the Council of the B.B.K.A., reported on page 283 of our issue for July 16, a small sub-committee was appointed to consider the question of simple packages for the safe transit of honey by rail to and from shows, &c., and to draw up suggestions in regard thereto.

This sub-committee, consisting of Messrs. E. D. Till (Vice-Chairman of the Council), W. Broughton Carr, and Edwin H. Young (Secretary), met at 17, King William-street, on the 4th inst., Mr. Till presiding. After fully considering the matters entrusted to them and in the light of information gained subsequently to the meeting, the following report was placed before the Council at their meeting on the 10th inst. :—

REPORT OF SUB-COMMITTEE.—In considering the question of facilitating the safe transit, unpacking, staging, and re-packing honey sent for exhibition, the committee are of opinion that some uniformity of method is very desirable, and therefore recommend :—(1) Cheap packages, which need not necessarily be returned to exhibitor if honey be sold, nor be paid for by buyer at an extra cost. (2) That screws be used for securing the lid—not nails. (3) Not more than twenty-four glass jars, or twenty-four sections be sent in one package ; or at most the gross weight of each package not to exceed 56 lb. for convenience of handling. (4) That rope handles be used to the boxes. (5) That corrugated paper be used for wrapping round bottled honey. (6) That where hay or straw is used, it be made into cushions by enveloping it in paper, so that no loose hay, straw or dust shall soil the jars, or stick to leaking honey. (7) That each package have affixed to it a bold label (printed if possible) and lettered in large type—

HONEY.

FRAGILE.

THIS SIDE UP.

The "trade labels" on packing-cases used should also be removed, or pasted over, so that contents may not be mistaken in transit, by reason of original labels left on the boxes

(8) The adoption of used "Condensed Milk" boxes, for twenty-four glass jars or twelve sections. These boxes are strong and can be procured from grocers for about 2d. each. A *tall* screw-cap bottle (6 in. high), or a *short* screw-cap (5½ in.) will pack readily in these boxes, which are 18 in. long by 12 in. broad, and 6¾ in. deep inside clear measurement, and are formed of two ends, 12 in. by 6¾ in. by ¾ in. ; two sides, 19½ in. by 6¾ in. by ⅝ in. ; four pieces, 19½ in. by 6⅝ in. by $\frac{7}{16}$ in. (for bottom and lid).

In using this box for but twelve 1-lb. jars, the sides, bottom, and lid should be reduced to 10½ in. long, otherwise a partition in box will be needed.

Glass jars should, as before stated, each be encircled by a piece of corrugated paper, 11 in. by 5 in., so as to lap over. Twenty-four jars will then *exactly* fill the box, on the bottom of which a piece of corrugated paper, 12 in. by 18 in. is laid, and a similar piece placed on top of jars before closing down. This involves the use of 1½ yards of corrugated paper.

Newspaper, several layers thick, answers the same purpose, but not so well.

In packing a dozen 1-lb. sections in one of these boxes, tie them in half dozens ; then make a paper parcel of the whole and a cushion of hay, shavings, or straw all round to prevent concussion. (For general instructions as to packing, and also Mr. W. Woodley's plan of packing sections, see BEE JOURNAL, June 7 1894, page 224.)

Cord handles should be arranged so that the knots (inside) come just 3 in. from the outside edge of box. The knots then fit between the shoulders of the bottles.

Mr. Young produced for the inspection of the sub-committee a light wooden box, 16¼ in. by 11 in. by 5 in., and gave detailed particulars as to the system adopted by the Great Eastern Railway Co. of carrying certain goods, including honey, if packed in boxes provided by the Company, at very low rates. The box shown was one of a series of four sizes, similar in make and the strength of wood used in manufacture. No. 1 (price 2½d.) is made of eight pieces, viz :—ends, ½ in. thick, each 10¾ in. by 5 in., one piece ; sides, ⅛ in. thick, each 16¼ in. by 5 in., one piece ; lid and bottom (each in two parts), ⅛ in. thick, measuring respectively 16¼ in. by 6 in. and 16¼ in. by 5 in. It is unfortunate that the size of No. 1 box unfits it for sending screw-cap glass jars of honey. The other regulation-sized boxes sold by the company are No. 2, 16¾ in. by 11½ in. by 5½ in. deep, price 3d. ; No. 3, 18½ in. by 13 in. by 6 in. deep, price 4d. ; No. 4, 21¾ in. by 14 in. by 7 in. deep, price 5d. The Company's regulations further provide that these boxes are to have lids nailed on when filled, *not tied with rope.* If sent in the Company's boxes, produce will be carried (owner's risk) at the following rates :—20 lbs. for 4d. to any distance on the Company's system, including delivery in usual limits,

with 1d. additional for every 5 lbs. up to 60 lbs.

Excepting that the size of No. 1 box unfits it for holding 1-lb. honey jars or sections, and sides, bottom, and top, of the Great Eastern Co.'s boxes seem too thin for the safe transit of honey in glass jars—although it is stated that honey is now regularly sent in these boxes—one could hardly hope for a cheaper or more convenient method of carrying suitable farm-produce—including honey—direct from producers to consumers. It will be a welcome encouragement of the minor rural industries concerned if the example of the Great Eastern Co. is followed by all our leading Railways.

The suggestions contained in the above report—since adopted by the Council of the B.B.K.A.—will, no doubt, receive the attention of exhibitors, and we hope meet with general approval. But to venture beyond the scope of the special question with which the sub-committee had alone to deal, viz., conveyance of honey exhibits to shows, the rates quoted by the G.E.R. Company are so exceptionally favourable, not only to bee-keepers, but to all minor rural industries, that, if taken advantage of and appreciated to the extent we hope they will be, it becomes reasonably certain that, sooner or later, they will be adopted by other leading railways.

In these days of keen competition the fact that a simple arrangement between producer and consumer will enable the latter to have delivered at his own door a neat new box containing, say, a couple of country-fed fowls, several pounds of freshly-made butter, a dozen new-laid eggs, and a few pounds of honey, along with fruit or anything else, not exceeding a gross weight of 20 lbs., at a cost of fourpence for carriage, or up to 60 lbs. for eightpence, comes upon one as a sort of revelation! And when, as we say, this arrangement becomes quite an easy matter, it only needs working out on sound business lines to render it capable of development to an enormous extent. The establishment of weekly deliveries of home-grown produce would be most advantageous to all concerned, seeing how largely cost of carriage handicaps the home grower in the race with his foreign competitors. Quality is admittedly on our side, and facilities in the way of convenience and cheapness of carriage such as are here brought to notice are well worth the earnest consideration of all in whose interest these lines are written. Nor is there any reason why British honey should not be far more frequently seen upon the British breakfast-table, as one good result.

BRITISH BEE-KEEPERS' ASSOCIATION.

The monthly meeting of the Council was held at 105, Jermyn-street, S.W., on Friday, September 11, 1896, Mr. E. D. Till (Vice-Chairman) in the chair. There were also present Messrs. R. T. Andrews, H. W. Brice, W. Broughton Carr, Major Fair, T. J. Weston, J. M. Hooker (ex-officio), and the Secretary.

The minutes of the previous meeting were read and confirmed.

Mr. Thos. Mellor, Beehive Villas, Kingsley, Cheadle, was elected as a member of the Association.

The Finance Committee reported that they had examined the accounts to August 31, and recommended payment of accounts amounting to £59. 9s. 7d. The report was adopted.

A discussion ensued on the report of the Education Committee as to the necessity for more definite rules in regard to the examinations for the Association's Experts' Certificates, and eventually it was resolved to authorise the Committee to draft regulations in accordance with certain suggestions made by the Council. It was thought that at present insufficient notice was often given of approaching examinations to allow of satisfactory arrangements being made by the Committee under the sanction of the Council. A question arose as to the position occupied by the holder of a 1st-class Expert's Certificate who, almost immediately after passing the examination, proclaimed views in direct opposition to those necessary to the gaining of such certificate. The matter was referred to the examiners for a further report, which will be considered at the next meeting.

The Secretary reported upon the result of communications with affiliated associations in regard to the proposed County Honey Trophy competition at Manchester in 1897. The replies received to the queries sent out were considered eminently satisfactory, and the Exhibitions Committee were asked to deal with the points raised when preparing the prize schedule. The consensus of opinion was decidedly in favour of limiting the weight of honey in any one trophy to about 300 lb.

Mr. Till presented a report of the sub-committee on "Simple Honey Packages" for transit to and from shows, &c, and it was resolved to ask that this report be printed in the columns of the BRITISH BEE JOURNAL, to give opportunity for discussion on the question.

THE COMING DAIRY SHOW.

Some doubt appears to exist in the minds of intending exhibitors of honey as to whether their personal attendance is necessary for the

purpose of unpacking, staging, and repacking. It seems, therefore, desirable to state that all this is undertaken by the Show authorities, who will also offer exhibits for sale, when so instructed. The Dairy Show affords an excellent market for bee-produce, but competitors who do not wish their exhibits returned are recommended to fix a reasonable price, instead of a fancy one. As we go to press we are glad to learn from a note sent by the Secretary that a more prominent position will this year be assigned to the honey department, which will be located in a newly-erected building leading from the ground floor of the Agricultural Hall, instead of in the galleries as in recent years. This alteration is likely to be widely appreciated by bee-keepers, and we anticipate a large display of honey and kindred exhibits. Let it not be forgotten, however, that entries close on Monday next, the 21st inst.

REDUCTION IN PRICE OF CANE SUGARS.

We are glad to announce that the sugars supplied through this office are, until further notice, reduced in price from 1s. to 2s. per cwt., according to the kind selected. See revised price list in usual column for full particulars.

DERBYSHIRE B.K.A.

ANNUAL SHOW AT DERBY.

The fifteenth annual exhibition of the D.B.K.A. was held in connection with that of the Derbyshire Agricultural Society on September 9 and 10 in the show-ground of the latter at Derby. The wet weather prevailing generally throughout the county unfortunately interfered with the comfort of visitors on the first day, but neither reduced the dimensions of the show nor the excellence of the exhibits. In the bee department a large display of honey, excellent in quality, was shown, notwithstanding the fact that the season of '96 is regarded as notable for dark honey. The schedule comprised in all eighteen classes, twelve of which were confined to "members of the D.B.K.A. only," while six were open to "all comers," and the competition for the prizes was very keen.

Mr. C. N. White, of Somersham, judged the bee exhibits, assisted in the open classes by Messrs. R. Giles and T. W. Jones, of the D.B.K.A. Mr. White also conducted an examination for 3rd class certificates of the B.B.K.A.

AWARDS (MEMBERS' CLASSES).

Single-frame Observatory Hive.—1st, H. C. Jacques, Horninglow; 2nd, A. Cooper, Derby; 3rd, H. Meakin, Newthorpe.

Observatory Hive, two or more Frames.—1st, Thos. Richards, Church Gresley; 2nd, H. Hill, Ambaston.

Display of Honey. — 1st, John Stone, Cubley; 2nd, H. Joyce, Smisby; 3rd, H. Hill; 4th, G. Sale, Smisby; 5th, G. H. Varty, Burnaston; h.c., A. Cooper.

Three Shallow-Frames of Honey.—1st, J. Stone; 2nd, J. Pearman, Derby.

12 1-*lb. Sections.*—1st, J. Stone; 2nd, T. Richards; 3rd, G. Sale.

12 1-*lb. Jars Extracted Honey.*—1st, J. Pearman; 2nd, J. Stone; 3rd, C. Wootton; 4th, R. Bridges, Hartstoft.

12 1-*lb. Jars Granulated Honey.*—1st, J. Stone.

Beeswax.—1st, H. Hill; 2nd, J. Stone; 3rd, G. Thornhill, Alport; 4th, C. Wootton, Draycott.

15 *lb. of Comb Honey* (labourers only).—1st, J. Pearman.

15 *lb. Extracted Honey* (labourers only).—1st, not awarded; 2nd. H. West, Boylestone; 3rd, J. Pearman.

Six 1-*lb Sections* (in Blow's Sections).—1st, J. Stone.

Six 1-*lb. Jars Bottles Extracted Honey* (in Blow's glass jars).—1st, C. Wootton; 2nd, H. West.

OPEN CLASSES.

Twelve 1-*lb Sections.*—1st, J. Stone; 2nd, W. H. Woods, St. Ives; 3rd, R. Brown, Somersham; h.c., H. O. Smith, Louth, Lincs.

Twelve 1-*lb. Jars Extracted Honey.*—1st, W. H. Woods; 2nd, H. O. Smith; 3rd, W. Petty, Hants.; 4th, Chas. Anger, Caistor; v.h.c., J. Sopp, Crowmarsh; and J. Hookway, Somerset; h.c., J. Waterfield, Kibworth; and H. W. Seymour, Henley-on-Thames.

Twelve 1-*lb. Jars Granulated Honey.*—1st, H. W. Seymour; 2nd, R. Brown, Somersham; h.c., J. Sopp, Crowmarsh.

Single 1-*lb. Sections.*—1st, R. Brown; 2nd, H. O. Smith; 3rd, J. Sopp.

Single 1-*lb. Jar Extracted Honey.*—1st, W. H. Woods; 2nd, J. Sopp; 3rd, W. Hogg, Castle-Douglas, N.B.

Collection of Appliances.—1st, G. H. Varty, Burnaston, Derby.—(*Communicated.*)

NOTTINGHAMSHIRE B.K.A.

The above Association held their annual show at Moorgreen in conjunction with that of the Agricultural and Horticultural Society on the 8th inst., when over 900 lb. of excellent honey was staged, and proved a very attractive department of the show, the tent being crowded most of the day. Mr. T. W. Jones, of Etwall, Derby, was the judge, assisted by Mr. S. W. Marriott, of Nottingham, and made the following awards:—

Best Hive.—1st, G. E. Puttergill, Beeston; 2nd, G. H. Varty, Burnaston, Derby.

Best Hive (*made by Amateur*).—1st, J. T. Faulconbridge, Bulwell; 2nd, J. F. Simpson, Underwood.

Single 1-*lb. Jar Extracted Honey* (Open).—1st, J. Sopp, Crawmarsh ; 2nd, H. O. Smith, Louth ; 3rd, T. Blake, Broughton ; 4th, G. Marshall, Notts.

Honey Trophy.—1st, J. and W. Herrod, Newark ; 2nd, G. Marshall, Norwell ; 3rd, J. W. S. Rawson, Selston ; 4th, J. T. Faulconbridge.

Twelve 1-*lb. Jars Extracted Honey* (Local).—1st, J. W. S. Rawson ; 2nd, Wm. Brooks, Eastwood ; 3rd, G. M. Bolton ; h.c., J. Rawson, sen.

Twelve 1-*lb. Jars Extracted Honey* (Notts only).—1st, G. Marshall ; 2nd, J. and W. Herrod ; 3rd, P. Scattergood ; 4th, H. Merryweather ; 5th, G. E. Puttergill ; h.c., J. F. Simpson, C. M. Lindley.

Six 1-*lb. Sections.*—1st, G. Marshall ; 2nd, J. and W. Herrod ; 3rd, G. E. Puttergill ; H.C., J. W. S. Rawson.

Six 1-*lb. Jars Granulated Honey.*—1st, J. W. S. Rawson ; 2nd, H. Wiggett, J. and W. Herrod.

Shallow Frame of Comb Honey.—1st, T. Marshall ; 2nd, G. Marshall ; 3rd, J. and W. Herrod.

Six 1-*lb. Jars Extracted Honey.*—1st, G. M. Bolton ; 2nd, Geo. Hayes ; 3rd, Wm. Poxon ; 4th, J. McKinnon.

Six 1-*lb. Sections* (Beginners only). — F. Wygett, Annesley ; 2nd, G. Reeve, Moorgreen.

Twelve 1-*lb. Jars Extracted Honey* (Blow's Jars).—1st, G. E. Puttergill.

Twelve 1-*lb. Sections* (in Blow's Sections).—1st, J. W. S. Rawson.

Honey Vinegar.—1st, G. E. Puttergill ; 2nd, P. Scattergood.

Honey Cake.—1st, P. Scattergood ; 2nd, J. and W. Herrod.

Observatory Hive.—1st, H. Wigget ; 2nd, J. Annable ; 3rd, G. E. Puttergill ; 4th, P. Scattergood.

Wax.—1st, G. Marshall ; 2nd, G. E. Puttergill ; 3rd, J. Gray, Long Eaton.—(*Communicated.*)

PERTHSHIRE B.K.A.

The annual exhibition of bees, honey, &c., under the auspices of this Society, was held in Perth on Friday the 28th ult. The entries this year were about the same as last year, and the total honey staged amounted to 1,200 lb. In all the classes of honey there was a very representative display. The prize for the most artistic display of honey was won by Mr. C. Cross, Luncarty, with a beautifully-arranged trophy weighing 96 lb. The second prize was gained by Mr. Duncan Stewart, Luncarty. Both these gentlemen took prizes in all the classes, and Mr. P. M'Whannell, Perth, secured a number of prizes. Heather-honey this year was very good, and a trifle better than the ordinary class. Mr. William Logie, Perth, carried off first honours. The medal for the most successful competitor was won by Mr. C. Cross, who carried off 4 firsts, 3 seconds, and 2 thirds. The judges were Mr. Lorimer, Dundee, and Mr. Campbell, The Durn, Perth, and their awards gave great satisfaction.—(*Communicated.*)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department reports of Associations, Shows, Meetings, Echoes, Queries Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London. W.C.*"

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

ERRORS IN TEACHING.

[2618.] In this month's *Practical Teacher* appears an article on "Apidæ" by Prof. J. R. Green, Sc.D., F.R.S., and Miss F. L. Green, as part of a course of instruction in Agricultural Zoology. Some of the statements do not appear to agree with what we are accustomed to read in our bee-literature, and you may be willing to clear up the apparent discrepancies or contradictions. Here is a statement which sounds strange :—"Two sorts of females have been observed among bees, a large one and a small one, but the latter is of rare occurrence and has never been observed to lay eggs." We bee-keepers certainly know of two sorts of females, queens and workers, large and small ; and the workers are sometimes found to lay eggs. But the statement, in so far as it differentiates sexually developed females, or queens, is not within our reading in such books as Cowan's "Guide Book" or Cowan's "Honey Bee."

Again. "Each cell is a distinct, separate, and independent structure, agglutinated only to the neighbouring cells, and capable of being completely detached from them without injury." I have never seen this statement before. Have I been wrong in considering that the cell walls are party walls? Do the bees raise two agglutinated walls at the same time between each pair of cells? And can the single cell be so detached as to leave the six cells round it entire? We are then told that—"Huber was the first to discover that there are two kinds of working bees, the nurse bees and the makers of wax." Our books teach us that the difference is a matter of age, some of the organs, it is true, being modified, but in all alike according to age. The same paragraph goes on to say that "the former" (the nurse bees) "build the combs and cells after the latter have laid the

foundation, collect honey, and feed the larvæ." Again we are pulled up by our books, and by our own observations, which teach us that the nurse bees do not collect the honey; this is work for the older ones, who, on occasion, may also be wax-producers. A little later it is stated again that the nurse bees do the work of shaping the bottoms of the cells with the wax deposited by the others. Is the inference a reliable one, that this work is restricted to the nurse bees?

We are told, "They appear to give the proper forms to the bottoms of the cells by means of their antennæ." I have read of the operation of the mandibles in scooping ("Honey Bee," p. 175), but not before this of those delicate sense organs, the antennæ, being used for shaping cells, though the antennæ would freely play their part in testing the work going on. The gauge which tests rail fixing does not lay down the permanent way.

The strength of older combs is attributed to their being smeared with propolis. Is this so? And, if it be so, are the combs smeared over the cell edges or over the cell walls?

"It should be noticed that the queens are all liberated in order of seniority." No doubt this would practically be so, but has the order of seniority been so exactly ascertained by queen-raisers that they could be sure of it?

"The old queen is never interfered with by the workers." This rule is open to exceptions. "Balling" is one. Supersession is another.

"In fine weather the drones pair with the queens in mid-air, after which they are destroyed by the workers." The step here is evidently one of condensation or boiling down; the writers could not have meant to associate the pairing and the destruction of drones by the workers as a sort of inevitable sequence, as the pairing and the death of the mating drone form a distinct sequence of their own.

I should like to ask another question, arising by suggestion in considering the development of the worker bee. Supposing nurse bees are not wax-producers to any material extent, is the development of the power of producing wax co-incident with the on-coming atrophy of the glands which the nurse bees find very essential in the production of brood-food?—S. JORDAN, *Bristol, September* 9.

[A perusal of the extracts quoted from Dr. Green's article leads us to suppose that he is not himself a bee-keeper, and, in getting up the subject for literary purposes, has consulted only such books on bees—presumably old ones—as were within reach. Whether this be so or not, he has apparently failed to study more modern works, and is consequently quite behind the time. There is not much difficulty in perceiving that the writer had in mind Huber's work—written over 100 years ago—the information given dating from that period. Anyway, if the extracts quoted refer to the honey-bee, *Apis Mellifica*, all the statements pointed out by Mr. Jordan are at variance with known facts. The "two sorts of females" mentioned may apply to the genus *Bombus*, or humble-bees, but they are not "rare" among these latter insects. So it is more than probable that the honey-bee is meant by Dr. Green; and if this is so, we do not understand him. It is, however, quite evident that the writer of the article dealt with is not at all well-versed in the hive-bee portion of his subject.

The concluding question put by our correspondent could only be definitely decided by close examination of swarms, seeing that even the youngest bees have their wax glands perfectly developed, and, this being so, it is reasonable to assume that they could produce wax if it were necessary for them to do so.—EDS.]

BEES AND LIME TREES.

[2619.] Referring to the subject of bees found dead under lime trees (page 363 of B. B. J. for September 10), I have noticed that all the bumble bees thus found have two or three of the abdominal rings enclosing the sting removed. It therefore appears to me that they are killed by birds and the honey bag extracted. There are a number of lime trees round my house and I find dead bees under most of them. All the limes do not flower exactly at the same time, which may be the cause of the dead bees being found under some trees more than others.—N., *Kintore, N.B., September* 12.

TALL GLASS VASES FOR HONEY.

SHOULD THEY BE ALLOWED IN "SHOWING?"

[2620.] As a constant reader of your interesting and valuable journal, I have hitherto been satisfied to leave contributions to its pages to others. Just now, however, I am moved to ask you to ventilate a grievance which up to the present, so far as I know, has only found expression in semi-public growls. I refer to the disposition shown to seek undue advantage on the show-bench by putting up honey in tall vases. I have heard this described as "unfair competition," and I endorse this description, inasmuch as honey in a tall, narrow vase appears lighter than the same honey in the usual 1-lb. screw-capped glass jar.

In the interest of the honey show, I say let us have some restriction placed upon the height of the vessel—as at the coming Dairy Show—or a separate class for each; or, perhaps better still, one class for the "Standard" jar (the best form so far) and an "any other variety class."—NOVICE, *September* 4.

[The Council of the B.K.K.A. have already taken action in the matter referred to by our correspondent, as seen in the schedule mentioned by him. It is also intended that the same restriction shall extend to all shows with which the parent association is directly con-

cerned. Nor have we any doubt that County Associations will see the wisdom of restricting the height of glass honey jars to six inches for show purposes. There is, however, no "Standard" honey jar, nor do we think it advisable to recommend the adoption of such. In fact, after limiting the height of jar, exhibitors should not be compelled to procure those of a particular make, but be allowed a free market so far as choosing for themselves from whom they will purchase.—EDS.]

ENEMIES OF BEES IN S. AFRICA.

[2621.] Referring to my letter inserted in B.J. of July 9 last (2554, p. 274), I beg to thank you for the information contained in your reply thereto. There was, however, a slight printer's error in my letter referred to, which it may be well to put right, in that I am made to say—when referring to the enemies of bees in S. Africa—"large swifts bee-eaters," whereas it should have been "large *Swifts*, which are bee-eaters."

I enclose a specimen of this bird, which I consider is one of the greatest enemies to bees anywhere. In the crop of the specimen sent I found eight or ten bees, and the gizzard was filled with the remains of bees.—E. C. WELLS, *Queenstown, Cape Colony, August* 24, 1896.

LATE FERTILISATION OF QUEEN.

[2622.] Apropos of your remarks (September 10, 2610) to "Learner," the following instance of late fertilisation may be of interest. On July 13 I transferred a larva, a day or two old, to a queen-cell in another hive. The resulting queen was active enough on the 27th, and I should think was hatched on the 24th or 25th. On August 21 she had laid no eggs. Having a nucleus ready to unite with another hive headed by an old queen, I determined to give a week's respite, and then, if necessary, let the old queen keep possession, and unite the nucleus instead with the stock where my new queen was. On August 28, over a month after hatching, my bonny rotund queen was laying well, and not much before then, for I saw no larvæ. The identity of the queen there is no doubt about, as she was my only queen raised from a hybrid, and she is not a drone-breeder, as might have been expected from Huber's observations, quoted on p. 141 Cowan's "Honey-Bee."—S. JORDAN, *Bristol, Sept.* 14.

SEASONABLE QUESTIONS.

ANSWERED BY G. M. DOOLITTLE.

PURITY *v.* WORKING QUALITIES.

Question.—I understand that you are selling queens and bees. Do you guarantee your stock to be pure or is not purity of stock the greatest essential in bees?

Answer.—Much has been said in years past about a standard of purity for our bees; and some of us have often been led to ask ourselves the question, "Can we adopt a standard of purity that will always secure to us the best working qualities in our bees?" It would, of course, be easy for those who follow nothing but queen-breeding as a business to adopt a standard of purity, or secure something which would be called "thoroughbred" at least; but for the rank and file of honey-producers to adopt the same standard would be quite another thing. The workers from different queens of the same colour and general appearance show a vast difference as to working qualities—at least, such is my experience. In the spring of 1877, while changing a colony from one hive to another, I noticed a fine-looking orange-coloured queen, with the workers all well-marked. A neighbour, who kept several colonies of bees, was present, and remarked that he preferred a darker-coloured queen for business; and I agreed with his decision. No further notice was taken of the colony than of others till about June 25, when the swarming season was nearly over. This one had not swarmed, but had 60 lb. of section honey nearly ready to come off. July 3, they gave a fine swarm which was hived. Although the parent colony had none of its queen-cells cut, it never offered to swarm again; and the result at the end of the season was 195 lb. of section honey from the parent, and 114 lb. from the swarm, or 309 lb. in all. The queen reared in the old hive was very much like her mother, and both colonies wintered with the loss of but very few bees, and consumed comparatively little honey, according to many others. The next season they showed the same disposition not to swarm till late; and from the colony with the old queen I obtained 151 lb. of section honey, while but few other colonies yielded over 100 lb. I then reared nearly all of my queens from this old one, as long as she lived, and found the majority of them very prolific layers and their workers great honey-gatherers. After she died I began getting queens from other parties who reported good honey-yields through our bee-papers, to cross with mine, as in-and-in breeding is generally considered injurious to bees. Many of these queens did not prove to be equal to my own, and were soon superseded. Some proved to be good and were used in connection with the above strain, which I have kept largely in the majority ever since. By this mode of crossing I have bred up a strain of bees which pleases me; and after years of trial I believe them to be second to none as honey-gatherers, although for their purity I can give no guarantee, neither do I think it necessary to guarantee the positive purity of any stock, except that it be good in every spot and place where you wish goodness. I am still striving to advance further along the

honey-gathering line, so each year finds me securing queens from the most approved sources, although it is seldom I find one I care to use as a breeder; but as this "seldom one" is of great value, I consider myself well paid for all my trouble. There is nothing in all the realm of bee-keeping that gives me more pleasure than this work of improvement of stock for its honey-gathering qualities; and as we have several of our most prominent apiarists at work along this line, if perfection can be attained with bees I doubt not that America will stand at the head one of these days. But I have my doubts about "standing at the head" meaning *purity of stock*.

UNITING BEES.

Question.—Will you please tell us in *Gleanings* how to unite two or more weak colonies so that they may be strong enough for winter? I have some small colonies which I wish to put together this fall; and as I am only a beginner in bee-keeping, any advice would be acceptable.

Answer.—The uniting of two or more weak colonies of bees for winter is the proper thing to do; for two weak colonies, kept separate, will consume nearly twice the stores that both together would united, and very likely perish before spring; while, if put together, they would winter as well as any large colony. The way to proceed is as follows: If one of the queens is known to be inferior, remove her, so that the best queen may survive; otherwise pay no attention to the queens, for one of them will soon be killed after uniting. Having the queen matter disposed of, go to the colonies you wish to unite, and blow smoke quite freely in at the entrance, pounding on the top of the hive at the same time with the doubled-up fist. When both have been treated in this way, wait a moment or two for the bees to fill themselves with honey, when one is to be carried to where the other stands, and both opened. Now select the combs from both hives which contain most honey, and come the nearest to filling the frames, setting them in one hive. In thus setting in, it is always best to alternate the frames, whereby the bees are so mixed up that they have no desire to fight, for each bee touched by another is a stranger. After the hive is filled, arrange the quilt and put on the cover. Next put a wide board or sheet in front of the hive, leading up to the entrance, and proceed to shake the bees off the remaining frames, taking first a frame from one hive and then one from the other, thus mixing the bees as before. After all are in, set a board up against the front of the hive, sloping over the entrance, so that the next time the bees fly they will be compelled to fly against it or crawl out around it, thus causing them to mark their location anew; they will then not be so liable to return to their old place. The mixing and causing them to fill with honey has a tendency to make bees look after their location; but the board helps also in this direction. Also remove all relics of the old hive likely to entice them back to their old stand. Put the remaining combs away in some safe place for the next season's use, and the work is complete. If this uniting is done near sunset, and the bees are caused to fill themselves thoroughly with honey, very few will fly away in the process.—*Gleanings.*

LECTURES ON BEES.

A series of lectures on bees were recently delivered in the New Bank Rooms, Stanhope, on twelve respective Monday evenings by Mr. Wm. Crisp, of Eaglescliffe, formerly of Great Ayton. The lectures were given under the auspices of the Durham County Council, and, judging by the number attending, were thoroughly appreciated. Lectures on this interesting subject should be given in every village and country town in the land where bees are kept, and working men encouraged to take up bee-keeping, not merely as a hobby, but as a pleasant means of adding to their income. The Durham County Council are to be complimented on devoting a portion of the funds at their disposal for objects like these, and thus spreading abroad knowledge of a subject so important to working men dwelling in rural districts.—(*Communicated.*)

Queries and Replies.

[1545.] *Sending Honey to Shows.*—Please inform a novice through your valuable journal (1) How to extract heather honey and put it up in form for showing? (2) Which kind of bottle is best for travelling a long distance? (3) Are sections shown best in cases or glazed? (4) Do the "half-rate" charges for which honey is conveyed to the dairy show extend to Scotch railways?—DONALD MCGEACHY, *Pennyfair, Oban, N.B, September* 8.

REPLY.—1. We have heard of "dropped" heather honey (the term is a Scotch one), but confess our ignorance of the method by which good heather honey can be extracted from combs other than by pressure. This seems to be now generally admitted, even in Scotland, seeing that presses are now made expressly for the purpose of extracting the contents of combs filled at the moors in this way. It is put up for showing in glass jars, just as any other honey. 2. The ordinary screw-cap jar is best. 3. If by "cases" you mean single cases holding a dozen sections, we think these latter less suitable for showing generally than glazed cases holding a single section. "Glassing" the section on both sides

by means of lace-paper edging, without a case at all, however, does as well, and is as neat as any form for showing. 4. We cannot say if "half rates" for honey extend to Scottish railways, but should suppose the latter are not behind English companies in this respect.

[1546.] *Suspected Foul Brood.*—I send you by this post a box containing a small piece of comb, in one cell of which you will see a dead and rotten grub. I shall be glad to know whether it is a case of foul brood. The county expert spotted it this afternoon, and on careful examination we failed to discover any other suspicious symptom, this being the only cell of the sort we saw. The capping was removed in order to see what was inside. The hive is strong, in good condition, and has given 65 lb. of sections in the past season. I only keep three hives, and all were examined.—G. EDWARD WILSON, *Kidderminster, September* 14.

REPLY.—The fact of there being only a single cell containing dead brood in the whole of the combs is, of itself, sufficient to remove serious alarm, for which we think there is no cause at all, though the expert was quite right in pointing it out and even suspecting mischief.

[1547.] *Black Specks in Honey.*—Will you kindly give your opinion as to what the enclosed small black specks are which I found in uncapping a super of standard frames? They were in all the frames, one or two in each cell. I have not found them in any other frames except those on this hive. The honey was gathered in the early part of the season. A. MOYES, *Pewsey, Wilts, September* 11.

REPLY. — Careful examination of the "specks" in honey received shows them to be the usual "traces" left in combs which have been infested by the larvæ of the wax moth.

Bee Shows to Come.

September 26.—At the Corn Exchange, Jedburgh. Annual show of Roxburghshire B.K.A. Twenty-eight classes, all open to members free of entry-fee. Entries close September 22. Thos. Clark, secretary, Pleasants Schoolhouse, Jedburgh, N.B.

October 17, at the Town Hall, Rutherglen, N.B. — Second Annual Show of Honey, Appliances, Fruit, Vegetables, &c. For schedules, apply to John Stevenson, Secretary, Maryton Braes, Larkhall, N.B.

October 20, 21, 22, and 23, at the Royal Agricultural Hall, Islington, London, N. Twenty-first Annual Show of the British Dairy Farmers' Association. Eight classes for honey, with liberal prize money, and a class for interesting and instructive exhibits connected with bee culture. Entries close September 21. Schedules from the secretary, Wm. C. Young, 12, Hanover-square, London.

November 18 and 19, at Newcastle-on-Tyne. —Northumberland and Durham B.K.A., in connection with the Horticultural Society's Chrysanthemum Show at the Town Hall. Three open classes. Entry fee, 1s. each class. Schedules from J. N. Kidd, 29, Windermere-street, Gateshead. Entries close November 13.

A RECORD HONEY GATHERING.

WEIGHT OF HONEY GATHERED DAILY BY A COLONY OF BEES.

Inclosed I send you a record of a colony of bees that I had on scales during basswood bloom, from June 20, in evening, to July 16, in evening. The record shows the weight every morning and evening, also the gain during day and loss during night. This colony is all the product of one queen, and I took two frames of hatching brood from it about June 1, to help other weak swarms. Can any of you beat it?

RECORD OF COLONY OF BEES FROM JUNE 20, IN EVENING, TO JULY 16, IN EVENING.

Date.	Morning.	Extracted.	Evening.	Gain during day.	Loss during night.
June 20			84		1
21	83		89¼	6¼	1
22	88¼		96½	8¼	1½
23	95		102	7	⅝
24	101¼		105½	4¼	1
	Put on 2nd top story, 15 lb.				
25	120		126	6	⅜
26	125¼		130½	5¼	⅝
27	129¾		138	8¼	1
28	137		145½	8½	1¼
29	144		156½	12½	1⅜
30	154⅜	19¾	153½	18¾	1⅜
July 1	151¾	7¼	161¼	17½	2
2	159½	19¾	161⅜	22	2½
3	159½		177	17⅜	2⅝
4	174½		189⅜	15½	3
5	186⅜	40	162	15½	2
6	160		177½	17½	2
7	175½		192	16½	2½
8	189½	57	146	13⅜	2⅝
9	143⅜		164	20⅜	2¼
10	161⅜		188	26¼	2½
11	185½	35½	179	29	2¼
12	176⅜		191½	14⅜	2
13	189½	50½	153¾	14⅜	1⅜
14	152		164	12	1¼
15	162⅞		169½	6⅜	1¼
16	168¼		170	1¾	

G. W. WILSON, in *Gleanings.*

[It will, no doubt, astonish British bee-keepers to think that so large a daily "gathering" as the above—reported from Wisconsin,

U.S.A.—is possible by a single colony of bees. The average for the whole twenty-six days is about 13¾ lb. per day, while in the four best days the bees stored nearly 100 lb. !—EDS.]

EARLY AND LATE REARED QUEENS.

One often reads in the various bee journals about the advantages of late-raised queens over those raised earlier in the season. For the last six years I have tried to find out the difference, if any, and what it was, between a queen raised early in the season, one raised in the middle of the season, and one raised as late in the fall as it was safe to expect them to become fecundated (that was October), all from the same mother, and under the same conditions as regards number of bees in the hive, and feeding, if required; also, as far as possible, with selected drones, and drones from selected queens.

I find that queens raised late in the season are, as a rule, larger in circumference, by measurement with a very finely adjusted pair of calipers; also that they are from $\frac{1}{16}$ to $\frac{1}{8}$ inch longer. They are more fully developed in a general way, the same as a queen that is raised by a colony to supersede the old one. If raised in the fall I find that the next spring they commence to lay earlier, and are more prolific; that, as a rule, their progeny are larger and more industrious; that they are not so apt to swarm; they live from three to four years, and perform their work as queens better. In other words, as a rule they rear more and better brood.

We now might ask, "Why is this so?" If we look at it from a physiological point of view I think our question is answered by a little reflection and thought on the subject; that is, that the queen raised in the early or middle part of the season goes to work at once, and is forced, by the demands made on her, to furnish brood for the full capacity of the hive for four or five months, and to commence to do it from the time she is ten or twelve days old, thereby impairing her vitality and strength, taxing them to their utmost, while the late-raised queen has a long winter's rest during the corresponding five months, thereby developing into full strength and womanhood before she is required to draw on her vitality to the extent of her earlier-raised sister.

If we look at the queen's oviduct with a powerful microscope, we see the lining membrances of the early-raised queens are thinner than those raised late in the fall. I think this shows impaired vitality. From my observations I have come to the conclusion that a queen raised in the fall is stronger, and has, through the winter, become more vigorous before being called upon to perform her natural functions to their fullest extent, thereby having time to store up vital force. Having gained strength, and developed to their fullest capacity all of her organs of productiveness before she is called upon to use them—when she does that by the strength gained by her rest and development in early life, she is better prepared to stand the strain that is required of her during the following season; and when that ends she has another long rest to recuperate her vitality before she is called upon to go through another season's work.—G. L. VINAL, in *Gleanings*.

HONEY VINEGAR.

AN AMERICAN RECIPE FOR MAKING IT.

You can hardly miss in making vinegar of honey. All that's necessary is to have some water with the honey, keep it reasonably warm, and let the air get to its surface. The stronger it is the longer it will take to make, and the cooler it is kept the slower will be the acetous fermentation. Probably most of the honey vinegar is made from the washings of cappings, in which case it would be hard to say how much honey is used to a gallon, and different persons make it of different strength. In the chapter on vinegar in Root's "A B C of Bee-Culture," E. France says it takes two pounds of honey to make a gallon of vinegar, and it takes two years to make it. "To know when the water is sweet enough, put in a good, fresh egg, and make the water sweet enough to float the egg so there will be a patch of the shell out of the water about as big as a silver 10-cent piece; then it is about right. We keep ours standing in barrels, with one head out, to give it air; for air it must have to make vinegar. Tie a square yard of cheese-cloth over the top of the barrel, to keep out dirt and flies and other insects. Keep under cover out of the rain, in a warm, dry, airy place."—*American Bee Journal*.

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

*** We are requested by Mr. S. J. Baldwin, who left Southampton on the 8th inst. for America, to say that personal letters intended for him should be addressed care of Mr. A. S. Campbell, 554, Madison-avenue, Elizabeth, New Jersey, U.S.A. Mr. Baldwin hopes to be home again in December.

H. MOORE (Holmbush).—*Suspected Loss of Queen.*—The abdomen of dead bee forwarded is so abnormally extended and distended that we cannot wonder at your mistaking it for a queen. It is, however, only a worker bee, which by its appearance would lead one to suppose had by some means overcharged itself with honey. A close examination of the abdomen would have shown our correspondent wax-scales exuding from the several segments, and thus at once have proved it a worker.

FANNY L. TULL (Newport).—*Bee Appliances at the Dairy Show.*—1. It is almost certain that one or more dealers in appliances will have a stand at the Agricultural Hall on the occasion of the Dairy Show. Moreover, there will, no doubt, be practical bee-keepers present every day, who will be very pleased to afford information on the subject of bees. 2. As one of the objects of the Show is to promote sales of honey between producers and buyers, it is also certain that plenty of sections will be on sale.

T. W. PATON (Kilmarnock).—*Bees and Drains.*—Bees certainly have at times a tendency to visit such places on account of the saline properties in the moisture found there. The idea—however excusable—that the honey in hives near will be affected in any way is entirely a sentimental one, having no foundation in fact.

H. E. (Birmingham).—*The Wells System.*—The only publication on this system is the pamphlet published by Mr. Wells himself. This may be had from the author, Geo. Wells, Aylesford, Kent, price 6½d. post free.

ESCOWBECK (Caton).—*Fixing Frames for Winter.*—If by "lifting frames" you mean giving space below combs in winter by this means, we do not see how it is practicable in the hive referred to. Space is usually given below frames by setting an "eke" below, or else by lowering the floorboard. Some bee-keepers who use the combination hive move the frames about six inches rearward from the entrance in winter, fixing a dummy in front of them; but we do not think the practice is largely followed.

M. C. CLUTTERBUCK (Brighton).—*Sending Bees by Goods Train.*—If purchaser asks that stocks of bees in frame hives be sent by *goods train*, it should certainly be at his own risk. On no other terms would we be inclined to send them so.

CARTON (by Warrington).—*Feeding Bees up for Winter.*—So far from leaving this operation over till end of October as proposed, you will do much better by starting to feed at once, and let the bees have their full supply before the first week in that month.

Special Prepaid Advertisements.

Situations, Publications, Bee Plants, &c. — Up to Twelve words, Sixpence; for every additional Three words or under, One Penny.

WANTED, HONEY and WAX. Send price and sample to E. LOWE, Helsby, Cheshire. N 58

SIX "RAPID" BEE-FEEDERS, new; list 3s. each. Accept 9s. COOPER, 71, High-street, Burton-on-Trent. N 50

WELL-FILLED SECTIONS WANTED. State lowest price delivered. LEE, 5, Holborn-place, London, W.C. N 48

WANTED, few Stocks of BEES, Skeps or Bar-Frames. Price and particulars to JOHN MACDONALD, Bonaly, Clynder, Roseneath, N.B. N 51

PROMPT CASH for Extracted HONEY. State price and send sample to F. SLADEN, Ripple Court Apiary, Dover. N 55

FINEST ENGLISH HONEY, in ½-cwts., 7d. per lb. Tins free. Sample 2d. Deposit. DUTTON, Terling, Witham, Essex. N 54

FOR SALE, 80 Sections splendid quality HONEY; weight 68 lbs. 36s. the lot, carriage paid. ERNEST E. DAVIS, Great Bookham, Surrey. N 60

EXCHANGE Cushion-Tyre BICYCLE, good condition, for BEES in Bar-Frame Hives. Particulars on application. C. GOULD, Havilland Hall Farm, Guernsey. N 59

LIMNANTHES DOUGLASSII, Hardy, well-rooted Bee-Plant. Stands all weathers, blooms early spring. 1s. per 100; 8s. 1,000. "C.," Sunnyside, Par Station. N 49

FOR SALE, few strong, healthy Stocks BEES. Fed (medicated) for winter and spring, £1. Or Exchange for cross-bred Pullets. H. HILL, Ambaston, Derby. N 53

SURPLUS BAR-FRAME STOCKS, excellent stores, 25s.; 16-oz. Screw-top Bottles, 2s. dozen; Gilt Section Bands, 1s 100. WOOD & TAYLOR, Hathersage, Derbyshire.

FIVE Healthy STOCKS, in Bar-Frame Hives; young Queens; plenty of stores; never had a case of foul brood; good honey gatherers; price 25s. each. ERNEST EDDISON, Shireoaks, Worksop, Notts. N 57

FOR SALE, 3 New "Guinea" HIVES, enamelled, two Colonies Stocked with Bees, all '96 Queens, strong and healthy; one Straw Skep with Bees; one new black and gilt "Observatory" Hive; 15 new Straw Skeps. What offers? H. SEAMARK, Willingham, Cambs. N 52

HEALTHY DRIVEN BEES, 1s. 3d. lb. in 5-lb. lots. Boxes to be returned. E. LONG, Fulbourn, Cambs.

STRONG STOCK ITALIAN BEES for SALE. Particulars on application. CLARKSON, Church-street, West Hartlepool. N 35

GOOD CLOVER HONEY for SALE, in 1-lb. Sections. C. MILBURN, Holborn, Lowick, Beal, Northumberland. N 45

BEAUTIFUL HARDY PLANTS. Specially marked list, showing the best kinds to grow for Bees, sent on application. HARBORNE PLANT CO., Birmingham. N 38

Editorial, Notices, &c.

USEFUL HINTS.

WEATHER.—There is nothing good to chronicle—so far as bee-weather—beyond the fact that pastures are now in such excellent condition as to go far towards ensuring a good crop of bee-forage for next year. For the rest, the autumn has been altogether unfavourable for bees, more or less rain falling almost daily, and putting a complete stop to September honey gathering for '96. The breadth of autumn-reared brood will, in consequence, be considerably reduced where bees have not been fed to keep queens laying. There is still time, however, to get a few thousand young bees reared by judicious feeding, and as a good deal of the dark, poor flavoured honey—of which such frequent complaints are this year heard—will be given back to bees, after its quality has been gauged through the extractor, the sooner it is done the better. It is also more than probable that for the same reason brood-chambers will be less closely stripped of the season's gathering this autumn than is sometimes the case; and it will save outlay in sugar, besides affording more time to look after the bees' requirements in other ways, when feeding is thus in some measure dispensed with.

THE DAIRY SHOW.—It is pleasant to note the increasing signs of interest taken in the coming show which opens at the Agricultural Hall on October 22; not the least gratifying item of news being the intended change of location from the upstairs position formerly occupied in the Gallery to the newly-erected annexe to the building leading from the ground-floor of the Hall. This should be an immense improvement, and if bee-men muster in such force on the occasion as it is hoped they will, much good to all concerned will undoubtedly follow. An annual gathering in the metropolis, at which all classes of bee-keepers can meet in friendly intercourse, and, let us add, without quite losing sight of the business side of the meeting, is what has been long wanted, and we hope the Dairy Show will be the means of bringing about the consummation wished for. So much, however, of the success or otherwise of the gathering is in the hands of bee-keepers themselves, that it is to our own people we must look for the support which alone can secure a satisfactory result. All that lies in our power to do shall be done, so far as giving prominence to all that concerns or will contribute to the success of the event. A united effort among our readers will ensure the rest.

HONEY TROPHIES AT THE "ROYAL" SHOW OF '97.—We have yet another appeal to make, in support of the special class, which—as stated on p. 351—there are good reasons for supposing will be included in the schedule of the "Royal" Show at Manchester in June next. Many County Bee-Keepers' Associations are taking the matter up warmly, encouraging promises of support having been received; but we must not lose sight of the fact that if promises are to culminate in actual entries steps must be taken *now* to provide the produce wherewith to make up the "Trophy." It will not do for individual members—whose help is relied upon—to sell their own "best stuff" and depend on their fellow-members for filling the gap. We must bear in mind that too much of this will end in there being a "gap" on the show-bench which should have been filled by the county exhibit.

If the value of the prizes offered in the Trophy class can be made commensurate with the importance of the occasion, and the weight of produce in each exhibit is kept within reasonable limits, it is not too much to expect to see so numerous a display of honey trophies at Manchester as will make the occasion memorable in the history of bee-craft. On the other hand, we are afraid that any attempt to fix the total weight at a very high figure would so tend to reduce the number of entries as to spoil the affair entirely as an aggregate display. On this account alone we say it will be infinitely better to have twenty or more entries of moderate size than half-a-dozen big ones.

WAX EXTRACTING.—It is a frequent complaint among our readers that they cannot extract wax from their own combs at all comparable to that usually seen in prize samples exhibited at shows. There are, we may be sure, many reasons for this; an important one being the fact that, for show purposes, only the cleanest combs (never bred in) are selected. In many

cases only the cappings of such combs are used when preparing a show sample. Artificial colouring is, no doubt, also frequently used, otherwise it would be difficult to account for the beautiful pale yellow wax often met with at exhibitions. As with cheese, butter, &c., so also with beeswax we suppose the same thing is done, and so long as only colouring matter entirely harmless in every respect is used, this item of the exhibitors' art is, we suppose, allowable. But we are here less concerned with the "art" of preparing beeswax for show purposes than for the eye of the chemist or other tradesman to whom it is offered for sale. This is what most touches the majority in the matter. We have, in our pages at various times, repeated all we know of simple and effectual methods of melting down combs into saleable wax, and those who go about it in the right way no doubt succeed, so far as producing a good article from the tradesman's standpoint, even though they fail when pitted against the "old hand" at preparing it for the show-bench. One thing, however, has struck us as not a little remarkable, and that is the rarity with which we find a bee-keeper in this country making even an attempt to utilise the sun's rays as a means of extracting wax from combs. No doubt the comparative fewness of real hot days with us will, in a great measure, account for this, but there is no reason why a simple home-made solar extractor should not be tried by those who happen to possess a suitable warm corner in which to place such an appliance.

The weak spot in this kingdom is, of course, lack of sunshine, but we are not often denied snatches of really hot days, which in the aggregate would tot up three weeks in which the apparatus would work; and few of us possess so many combs and cappings as to make this an insufficient time to extract the wax from them. We are told by men of great experience among prominent American bee-keepers that the solar extractor beats any other yet made for the purpose; that cleaner and better-coloured wax can be got from combs not touched by water in melting, and that the simple action of the sun's rays is the best of all means employed in wax extracting. This being so, it is with peculiar pleasure we reprint on another page of this issue particulars of the home-made "Sun Extractor," used by Mr. G. M. Doolittle, as described by himself in the *American Bee Journal*. The wide experience of the writer lends value to his words, and when we learn that the appliance referred to produces cleaner and better-coloured wax than the "Gerster," or any other, it is well worth a trial.

A neat solar extractor is described and illustrated on page 84 of the "Guide Book," which may suit some; but if a good-sized article is made, thoroughly bee-proof, and kept ready for setting outside in suitable weather, we have no doubt whatever that very satisfactory results will be obtained.

HEREFORD HONEY FAIR.

The twelfth annual honey fair, under the auspices of the Herefordshire Bee-keepers' Association, was held at the Hereford Butter Market on Wednesday, September 2. The quantity of honey staged was not so large as usual, and the quality, taking it all round, was under the average, although the prize exhibits were quite up to the usual standard. The deterioration in quantity and quality is accounted for by the dryness of the season. There was a brisk sale, however. In purchasers' own jars the honey sold at 8d. per lb., and up to 1s. in jars and sections. Mr. Alfred Watkins, secretary to the Association, undertook the management, the Rev. E. Davenport and Mr. J. Palmer adjudicating on the exhibits. With the exception of the "Champion Class" (open only for winners at previous shows of the H.B.K.A. this season), the competition was restricted to members of the Association. The following were the awards:—

Exhibit of Honey, not exceeding 200 *lb.* (*open*).—1st, M. Meadham, Hereford; 2nd, W. Tomkins, Burghill.

Twelve 1-*lb. Jars Extracted Honey* (*open*).—1st, Mrs. Blashill, Bridge Sollars; 2nd, R. Grindod, Whitfield; 3rd, W. Tomkins.

Six 1-*lb. Jars Extracted Honey* (*novices only*).—1st, E. J. Thomas, Hereford; 2nd, W. Baker, Hereford; 3rd, E. Fox, Garnons.

Twelve 1-*lb. Sections* (*open*).—1st, Mrs. Blashill; 2nd, W. Mattey, Marden; 3rd, C. Turner, Byford.

Six 1-*lb. Sections* (*novices*).—1st, H. Manwaring, Brimfield; 2nd, R. Grindod; 3rd, A. Farr, Llandinabo.

Three Shallow Frames of Sealed Honey.—1st, R. Grindod; 2nd, W. Tomkins; v.h.c., D. Frost, Kingstone.

Exhibit of Honey in any shape (*cottagers*

and previous non-winners only). — 1st, C. Edwards, Logaston; 2nd, A. Anning, Birch.

Exhibit of Honey not exceeding 12-*lb.* (*Champion Class*) *in* 1-*lb. Jars or* 1-*lb. Sections, or made up of both.* — W. Williams, Canon Froome.—(*Communicated.*)

LEICESTERSHIRE B.K.A.

The second annual exhibition of honey was held in connection with the Loughboro' Agricultural Society at the show ground, Southfield, Loughboro', on Wednesday, September 16. Competition was very keen in each class, and the display was considered one of the best. Mr. H. M. Riley, of Leicester (assisted by the secretary of the Association, Mr. J. Waterfield) gave an exhibition of bees with demonstration of their management on modern methods in a special tent, and short lectures on the busy insects, also in a netted-off enclosure. The judges were Mr. J. R. Truss, Ufford Heath, and Mr. H. M. Riley, Leicester, whose awards were as follows :—

Twelve 1-*lb. Sections.*—1st, Miss A. Throsby, Leicester; 2nd, J. Wakefield, Kibworth.

Twelve 1-*lb. Jars Extracted Honey.*—1st, W. A. Godby, Melton Mowbray; 2nd, Miss Throsby; 3rd, Mrs. T. Walker, Glen Hall.

Display of Honey. — 1st, Miss Cooper, Leicester; 2nd, W. P. Meadows, Syston; 3rd, Miss Throsby.

Extra prizes for members of L.B.K.A. (non-prize-winners at previous shows).

Twelve 1-*lb. Jars Extracted Honey.*—1st, F. Pickersgill, Withcote Oakham; 2nd, W. Spence, Loughboro'; 3rd, J. H. Topley, Walton-on-the-Wolds, and A. H. Peach, Oadby, Leicester (equal).

Twelve 1-*lb. Sections.*—1st, Thos. Earp, Jun., Loughboro'; 2nd, W. C. Lowe, Rothley Plain, Loughboro'.—(*Communicated.*)

WOTTON-UNDER-EDGE B.K.A.

The above Association held their annual exhibition of honey at the Church Mill on September 16. The Rev. E. Davenport, who officiated as judge, expressed his satisfaction with the quality of the honey exhibited, which was of a very high standard. The following is the list of awards :—

Twenty-four 1-*lb. sections.*—1st, Mrs. Till; 2nd, General Burn.

Twenty-four 1-*lb. Jars Extracted Honey.*—1st, C. W. Workman; 2nd, W. Hulance; 3rd, F. Tilley.

Twelve 1-*lb. Sections.*—1st, General Burn.

Twelve 1-*lb. Jars Extracted Honey.*—1st, Mrs. Burford; 2nd, C. W. Workman; 3rd, A. J. Brown.

Exhibit of Honey not over 60 *lb.* — 1st, C. W. Workman; 2nd, G. Venn.

Beeswax.—1st, C. W. Workman; 2nd, W. Griffin; 3rd, G. Venn.

Wasps' Nest.—A. Brown.

A public tea, held in the upper room, was well attended by members of the Association and friends, and later in the evening the Rev. E. Davenport delivered an interesting lecture on "Some Conditions of Success in Bee-keeping," illustrated by means of a lime-light lantern, manipulated by Mr. E. W. Read, the hon. secretary of the Association, who was presented by members of the Association with one of the collections of honey. This presentation was made by Mr. V. R. Perkins on behalf of the members.—(*Communicated.*)

BEE SHOW IN CUMBERLAND.

An Exhibition of Honey, Bees, and Appliances was held in connection with the show of the Gosport District Agricultural Society, Cumberland, on the 11th inst. The prizes in the bee and honey section were offered through the generous liberality of the President of the Society, Miles Postlethwaite, Esq., who presented the sum of ten guineas for the purpose. The awards were as under :—

Observatory Hive Stocked with Bees.—1st, J. Branthwaite, Arlecdon; 2nd, F. Palethorpe, Holmrook; 3rd, J. Finlay, Hensingham (7 entries).

Collection of Bee Appliances. — 1st, J. Cowan, Egremont; 2nd, J. Wilson, Whitehaven.

Frame-hive (*made by an amateur*).—1st, J. Cowan; 2nd, W. Townson, Ravenglass; 3rd, J. Finlay (7 entries).

Display of Honey.—1st, J. Moore, Langhorn Farm; 2nd, J. Finlay; 3rd, A. J. Hutchinson, Millom (8 entries).

Twelve 1-*lb. Jars Extracted Honey.*—1st, W. Barrows, Eskmeals; 2nd, H. Dickinson, Seascale; 3rd, J. Moore, Langhorn Farm (8 entries).

Twelve 1-*lb. Sections of Heather Honey.*—1st, I. Hail, Calderbridge; 2nd, H. Dickinson, Seascale; 3rd, Tom Logan, St. Bees (14 entries).—(*Communicated.*)

ABOUT OUR BEES.

BY HENRY W. BRICE.

XVII.

DISEASES.

Happy the bee-keeper who is not troubled with disease amongst his bees. To such I say do not treat the matter lightly, as although bees have fewer ailments than most animals, yet when once a colony is attacked with one special malady—which I need hardly name, so well is it known to bee-keepers—it may mean ruin or its equivalent to that and all adjacent stocks. Once foul brood appears in an apiary there is no knowing where it will stop; no pains, therefore, should be spared to keep this *bête noire* of the pursuit out of our hives. It does not follow, however, because one hive is

affected that all will be ; but the risk is great, and on the first appearance of an outbreak vigorous steps should be at once taken to deal with it ; and in most cases destruction will be found the best "cure." We are often urged to disturb our bees as little as possible, but, having in view the rapid spread of this disease during the last few years, I cannot admit that this dictum is quite sound, and, therefore, strongly advise that stocks be examined periodically if for no other reason than that of ascertaining whether they are in perfect health. If this is not done, and disease once gets a firm hold upon a stock, treatment by remedies are, in my opinion, extremely difficult. On the other hand, if disease is detected in its early or incipient stage, then and then only may we hope to cope with it and ultimately to remedy the evil.

The two diseases to which bees are most subject are dysentery and foul brood (*bacillus alvei*). With regard to the former, want of care and attention is the primary cause, including improper stores, and damp or badly-ventilated hives. The absence of the cause is the best remedy, and this is entirely in the bee-keeper's own hands. In foul brood, however, we have a very different set of circumstances to deal with. No one is safe, and unless precautions are taken, the most careful bee-keeper may some day find that he has fallen a victim to the scourge. The possible spread of the disease is known to be rapid, and hives wherein no disinfectants are used may easily fall a prey to its ravages. The "Leaflet No. 32," published by the Board of Agriculture, and reprinted in B. J. of July 30 last, gives full and detail particulars of the disease, and instructions as to dealing therewith. The gratuitous distribution of this leaflet—which, though necessarily dealing with the subject very briefly, is one of the best treatises on foul brood yet published—should do much in checking the progress of this disease, and its recent publication relieves me of the necessity of going over the whole of the ground here. There are, however, one or two points upon which I wish to lay particular stress, the foremost being to warn all against the practice of buying second-hand hives, &c. Under no circumstances, I would say, buy such articles without a guarantee that they have contained only healthy bees. I believe that very few realise how frequently disease is spread by using second-hand hives, &c., offered sometimes at a very low price for reasons best known to sellers. The temptation to go in for bargains is great, but where the risk is still greater, such goods should be considered dear at any price. The next point is the difficulty in thoroughly disinfecting hives which have contained diseased stocks. The inherent vitality of the foul-brood spore is so marvellous—while the spore itself is so difficult to destroy by any means not fatal to the bees as well—that it becomes a most arduous task to secure thorough disinfection of hives. My advice is to hold the infected hive in the flame of a wood fire until well charred inside and out, especially in all corners, and after letting it cool paint it within and without, first with carbolic acid solution (two parts water to one of Calvert's No. 5 acid), and then with a coat of good oil paint. Set it aside for a time (twelve months if possible), when it may be used again. If the hive be an old one don't trouble to remove it from the fire at all, its destruction will save a world of anxiety. Don't forget either, that although many known remedies will arrest the growth of bacilli, they have no effect whatever on the spores of foul-brood.

As a means of keeping the disease at arm's length, no effort should be spared so far as increasing the vigour and strength of our bees. Stocks not doing well should be examined, and, if healthy, re-queened and brought up to full strength without loss of time. Failing queens produce bees of low vitality, as also does too close inter-breeding. Unwholesome food, and want of cleanliness, too, are conditions highly favourable to the spread of the disease. In attempting to cure a stock, bear in mind that the queen may be a fruitful source of infection, and, as such, should be destroyed, and a healthy queen given in her stead. Knowing, as I do, that spores of foul brood have been found in the tissues and ovaries of queens taken from affected colonies, I regard the renewal of the queen as an essential step in attempting to cure ; for, although bees may be starved to rid them of food taken from an affected hive, it must be remembered that the queen is about the last to be "starved out." Moreover, the latent ova (in thousands) of a diseased queen will not of necessity be free from taint, even though she be herself starved, should she eventually recover sufficient vitality to resume her maternal labours.

We often hear of the foul smell issuing from stocks infected with foul brood, but this is no safe guide so far as detecting disease. I have seen badly-affected stocks, having no strong offensive odour at all about them. In some cases, no doubt, the peculiarly offensive smell is present, but this test only should never be relied upon.

In concluding this series of articles, I would just say, do not, under any circumstances, neglect to keep naphthaline in all hives, and when feeding is necessary see that a proper dose of naphthol beta is used in syrup making.

Never open hives unnecessarily, but have a definite and sufficient reason for so doing. When an examination is really necessary make it thorough, and be sure you master every detail as to the hive's condition. This done, *make a written note thereof for future guidance.*

Endeavour to have all hives in a profitable condition, with young queens and strong in bees at all seasons. This is the keystone to success.

Get the "Guide Book," master its contents,

and act up to its teachings, and you can't go wrong. Finally, if you can, help others seeking after light in bee-keeping.—H. W. BRICE, *Thornton Heath.*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department reports of Associations, Shows, Meetings, Echoes, Queries Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand. London. W.C.*"

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

EARLY AND LATE RAISED QUEENS.

[2623.] May I ask if the remarks of G. L. Vinal (page 379, B.B.J. of September 17) apply to this country equally with America? Last year I raised three queens, having commenced operations about July 13. One of these was so long before beginning to lay that I had given up all hope of her fertilisation, no eggs being found until September 8. Then, however, the bright weather continuing, breeding went on rapidly, and by giving the nucleus wherein the queen was raised some frames of hatching brood from another hive, and vigorous feeding they were in fine condition when packed for winter. An examination on March 9, 1896, showed neither brood nor eggs, very few bees, but plenty of stores; while on March 21 three frames were found nearly full of brood and eggs. From this time onward they left my other stocks far behind, so that by the middle of July this stock became half as strong again as my next best. Thus the weakest in March was the strongest in July.

Thinking, therefore, that some "princesses" raised from this good queen would do nicely to replace all others in my hives, I, on July 13, divided a strong lot, and having caged the queen on a comb, gave her to the queenless half (the old bees), where she has given a good account of her maternal powers. I hoped thus to get a large batch of queen-cells to form sufficient nuclei, but, like other human plans, it failed, for the perverse colony built one cell only, from which an apparently prolific mother has been produced.

This failure compelled me to remove queen from another hive, and in this case the bees raised cells *ad lib.* A fortnight later another batch were started in case of accidents. I have now six queens of 1896, two of 1895, and two of unknown age. Four have been lost on their mating flight.

One strange thing noticed has been the great difference of time between hatching and starting egg laying.

Of queens from three ripe cells put into nuclei on August 3 one was lost, one began laying August 10, and one not until September 8. I have thought that this uncertainty was due to fickle weather and fewness of drones, and had made a mental resolve to commence queen-rearing earlier next year, instead of waiting until most of the honey crop was gathered, but our American friend's note has set me thinking that, if late-hatched queens are the best, other difficulties can be put up with. Will you kindly oblige by giving an editorial opinion on the subject?

I am but a beginner, having bought a skep in August, 1894, begged another in October, bought a swarm in May, 1895, and begged one again in November, 1895. I increased to thirteen by artificial swarming, but have united some, leaving ten to pass the winter. I have used 130 lb. of sugar since July 18, so they ought not to suffer from want of stores. Although I have never seen driving done by an experienced bee-keeper, I have tackled the job about ten or twelve times for neighbouring cottagers with success, and very few stings. My last effort in that direction being during a heavy thunderstorm one Saturday afternoon (August 8). The bees were smoked, and as each skep was pulled off its stand, a carbolised cloth was allowed to fall over its mouth, and, having carried it into a shed (an assistant holding the umbrella during the performance) the driving skep was affixed, the carbolic cloth drawn half way off, and drumming commenced. Four were successfully driven in two hours, in spite of the untoward weather, without any stings.

The person for whom they were driven is feeding two lots in skeps, which I fear will be a failure. I advised two lots being put into one as being more likely to succeed, but he determined to run the risk with them singly and await results.

Please pardon this most egotistical communication, taking into consideration the fact that I am just now somewhat of an

"ENTHUSIAST."

Hereford, September 18.

P.S.—Kindly give dates of B.B.J.'s containing Mr. Brice's articles on queen raising.

[There are a few exceptionally favoured districts in this country where—owing to their being sheltered from high cold winds—the observations of Mr. Vinal might apply in their entirety if September be substituted for October, and precautions were taken to keep drones alive later than the bees would allow if left to themselves. As a matter of fact, we know of several young queens having been successfully mated within the last week or two in the south of England. As a rule, however, queen-rearing in some parts of

America is continued much later in the year, besides covering a season extending for several months beyond that of this country. The articles referred to commenced in B.J. of September 20, 1894, and were continued weekly till October 18.—EDS.]

CARNIOLAN AND ENGLISH BREEDERS.

[2624.] As it is well known that no other dealer guarantees safe introduction of queens, the remarks in the letter of September 10 (2612, p. 365) are distinctly personal. No dealer would assume the responsibility of guaranteeing safe introduction of queens without being fully prepared to act up to his agreement if only *a satisfactory reply were forthcoming;* and as it is always understood that queens bought as fertile are sent out warranted to be such, one fails to see a reason for the misrepresentation of facts for the purpose of securing another queen, as no object is expected to be gained by the dealer in knowingly sending out an unfertilised queen.

It would not, however, be at all an unusual thing for a queen inserted in autumn to be even more than twelve days before showing any sign of laying. On the other hand, it not unfrequently happens that a virgin queen is in the hive all the time, and being overlooked, the new queen is destroyed, and ultimately a useless queen being found, the dealer gets the blame for the purchaser's own oversight. Thus mistakes are liable to occur on either side, and my only regret is that our friend did not make a straightforward complaint at once, so that a better understanding might have been arrived at, instead of indulging in that "want of confidence which breeds suspicion," as appears, on his own confession, to have been the case.—A QUEEN-BREEDER, *September* 21.

[We do not see that any good purpose will be served by continuing this controversy, and it is quite possible that a few words of mutual explanation at the time might have cleared the matter up; but as it deals with transactions of several years ago, it is difficult to get at the exact facts, and we trust our correspondents will now be content to let the matter drop.—EDS.]

VISITORS TO DAIRY SHOW.

[2625.] With a view to facilitate meeting old acquaintances, and forming new ones, would it be troubling the Secretary of the B.B.K.A. too much to ask him to have "a visitors' book" in which bee-keepers might enter their own names, and of those they wish to meet, and the time at which they may be found in the honey department?

Would it be a good plan for hon. secretaries and "experts" of County Associations to wear their badges, so that those previously unacquainted may recognise each other?—A COUNTY B.K.A. HON. SECRETARY, *September* 19.

THE DAIRY SHOW

AND INTENDING VISITORS.

[2626.] I consider R. Dymond's suggestion (2616, p. 366) an excellent one. I hope to attend the Dairy Show and, for one, should be pleased to be often asked, "Who are you?" for I have often wanted to meet those whose acquaintance I have made on paper by reading their contributions to the B.B.J. So, Mr. R. Dymond, be prepared to hear in reply to your interrogatories—"Percy Leigh, of Beemount, Stoke Prior, Worcestershire."

BROODLESS AND QUEENLESS.

[2627.] I am very pleased with the answer you gave me on page 350. The stock referred to was both broodless and queenless. I examined the hive in a week, and on September 6 requeened it. On September 12 I found eggs on one comb; and on the 19th there was sealed brood on two combs. I found two other hives in similar condition and have requeened them. I notice on page 366 that a correspondent seems to question the accuracy of the answer you gave me, but he was certainly wrong so far as my case, for I found the hive, as I half expected, both broodless *and* queenless. This is why I asked for your opinion, and thank you for the same.—FELIX BRIDGETT, *Stoke-on-Trent, September* 21.

BROODLESS BUT NOT QUEENLESS.

[2628.] I notice your footnote to my letter (2615, p. 366), in reply to which I beg to state that I do not in the least wish to question the correctness of your views regarding the absence of brood in August. I merely wished to show that even the entire absence of brood at this season is not an absolute proof of queenlessness.—PERCY SHARP, *Brant Broughton, September* 16.

[We are very pleased to learn that no divergence of opinion exists on the point between ourselves and Dr. Sharp.—EDS.]

BEES AND VALERIAN.

[2629.] Can any bee-keeper say whether bees are partial to valerian, and also whether the honey resulting is of acceptable quality? I refer to the red spur valerian (*Centranthus ruber*), which flowers continuously from May to September, and propagates itself by self-sowing with great rapidity—thousands of seedlings are now coming up around each plant. It likes chalk districts, and grows profusely in some railway cuttings.—A KENT BEE-KEEPER, *September* 20.

THE SOLAR WAX-EXTRACTOR.

HOW TO MAKE IT.

An old bee-friend of years ago writes me as follows: "I hear that you have thrown away the Swiss wax-extractor you used in the early eighties, and now use a sun wax-extractor. I suppose you like the latter better than the former; and, if so, and you think the sun wax-extractor a really good thing, I wish you would tell us in the *American Bee Journal* how to make one, for I know that you can tell it so plainly that any of us can make one. Please do this and oblige."

Yes, I now use a sun, or solar, wax-extractor, altogether, and find it one of the nicest things about the apiary. The Swiss extractor was good for its capacity, and the time as to apicultural advancement, when it made its advent, but there was no comparison between it and a good solar wax extractor, as to ease of manipulation, cleanliness of use or capacity for work. As to the "how" of making, I will, in order to make it plain, give the size and number of pieces contained in the extractor, by numbers, and then tell you how to put them together, as I find it in an old diary of the time when I made the one I have been using ever since:—

No.	Pieces	Length in Inches.	Width in inches.	Thickness.
1	2	30	10	$\frac{7}{8}$
2	2	14	10	$\frac{7}{8}$
3	2	$15\frac{3}{4}$	10	$\frac{7}{8}$
4	2	30	$0\frac{7}{8}$	$\frac{7}{8}$
5	2	$17\frac{1}{2}$	$0\frac{7}{8}$	$\frac{7}{8}$
6	2	32	4	$\frac{7}{8}$
7	2	16	4	$\frac{7}{8}$
8	2	34	$0\frac{7}{8}$	$\frac{7}{8}$
9	2	18	—	—
10	1	34	$19\frac{3}{4}$	$\frac{1}{2}$
11	2 straps	10	1	
12	1 { sheet American stove-pipe iron	20	18	
13	2 glass	$30\frac{3}{4}$	$16\frac{1}{2}$	

Having these pieces cut to the dimensions above given, take No. 1, which is for the sides of the body of the extractor, and nail to the ends of No. 2. Next nail No. 3 on to one side for a bottom. No. 3 should be made from matched lumber, and all joints put together with white lead, so no loss of heat will occur from its escaping through the cracks or joints when the extractor is put together. Nail No. 4 to the outside of the extractor, at the sides, $\frac{1}{2}$ inch from the top, for the glass frame to rest on, and then nail No. 5 to the ends of No. 4 and the extractor. Now nail No. 6 to the ends of No. 7, for the glass frame, putting the glass, No. 13, into the grooves previously cut for them, before nailing. These grooves should be $\frac{3}{8}$ in. deep, the upper one being $\frac{3}{8}$ in. from the top, and the next one $\frac{3}{8}$ in. below the first, so as to make a dead air space between the glass. Perhaps it would be better to put this glass frame together with screws, for in this way there is less danger of breaking the glass.

If you cannot handily get glass sheets as large as stated, any number of pieces $16\frac{7}{8}$ in. long and of the right width so that a certain number when placed side by side will make $30\frac{3}{4}$ in., will do, if you have the upper and lower glass so arranged that they will break joints; still single sheets are better where they can be readily obtained.

The frame for these glass sheets is to be put together with white lead, the same as the body was; but there is no lead put in the grooves, as we could not get the glass out should it ever be broken, as mine has been twice. I find that air passes very slowly where it has to go around anything in the way it does the glass sheets when fixed.

Next nail No. 11 to the centre of this glass frame at each end, nailing them in such a way that they will form loops or handles, for the frame is to be handled by these, slid off and on, when putting in bits of wax, or when manipulating in time of scarcity of honey, when robbers would bother getting in, were the sash to be lifted off bodily, instead of sliding it.

Now nail No. 8 to the ends of No. 9, nailing No. 10 to the side of the frame made by nailing Nos. 8 and 9 together, for a cover to go over the glass frame when the extractor is not in use. This cover will keep the glass from being broken by hail-storms, or from any other cause. It is not necessary to have No. 10 all of one piece, as narrower stuff, with the cracks battened, will do very well.

Now take No. 12 and spring the middle down till the edges come even with the top of the body of the extractor, and snugly against what is to be the back of this body, when it is to be nailed along each side to the side of the extractor. This will give you a hollowing trough on which to put the material which is to be rendered into wax, and the black surface to the iron will so absorb the rays of the sun that it will become very hot in a short time after the cover is taken from over the glass.

Fit a piece of half-inch stuff under No. 12, a little back, say 5 in. from the front or open end, so as to keep the hot air from going under the iron, and it will help very much about keeping the wax melted in the dish into which it runs while being extracted. This keeping the wax melted in the dish helps much about securing our wax cakes in nice form.

Having all in readiness, set the extractor in or near the apiary, in some handy place, and as often as you have any bits of comb or scraps of wax, slide the cover a little forward and drop them in. When any amount has accumulated, remove the cover and in an hour or two the sun will have reduced all to a nice lot of clean wax in your dish. Of course you will prop the extractor up at the back side so it will face the sun at the right angle, and, if, in the fall of the year the inclination is so great that the refuse slides down into the wax dish, you can remedy it by fixing a piece of wire-cloth at the lower end of the iron bottom, so that the melted wax may run through, but the refuse be held back. After a little you

will find many kinks about its use not given here.—G. M. DOOLITTLE in *American Bee Journal*.

Queries and Replies.

[1548.] *Weight of Food for Winter.*—On page 111 of the "Guide Book" it says:—"The hives should have about 2 superficial feet of sealed honey." 1. Does this mean that I am to measure the surface on *both* sides of each frame? For instance, supposing a frame measured 12 in. by 12 in., both sides full of sealed honey, would it contain 2 or 1 superficial feet? On same page it also says:—"When one hive contains about 30 lb. of sealed stores," &c. Now I ask:—2. Could 30 lb. be stored in 2 superficial feet? 3. Does not a completely filled standard frame weigh only about 5 lb.? 4. Is it possible to extract uncapped syrup without an extractor? I do not wish to buy one till next year.—GEORGE M. SAUNDERS, *Keswick, September* 17.

REPLY.—1. One foot. 2. The paragraph quoted is meant to be read from the practical standpoint, and bee-keepers know that combs in brood-nest, having in them a total of 2 ft. of sealed stores, will, practically, contain several pounds over that weight in all. 3. We should imagine that 14 in. by 8½ in. of sealed honey would weigh between 7 lb. and 8 lb. 4. We should rather advise leaving uncapped syrup in combs than attempting to extract it without the aid of an extractor of some known form.

[1549.] *Temperature at which Napthol Beta Volatilises.*—Can you tell me the temperature at which napthol beta volatilises? I have at times thought that it may be driven off by adding it to bee-syrup while the latter is too hot.—T. I. WESTON, *Great Totham, September* 16.

REPLY.—Napthol beta volatilises at about 253 deg. Fahrenheit, and this being considerably above boiling point (212 deg.), no harm can follow adding it to syrup when removed from the fire.

[1550.] *Feeding-up Driven Stocks.*—On looking into a hive that has been very strong in bees all through this season, I noticed that the floor-board appeared to be rather messy. This stock was a lot of driven bees which built up last autumn, and I have not examined the floor-board or inside of hive since. 1. Do you advise me to disturb the bees by putting them into a clean hive now, or had I better let them go until spring? I have given my fresh-driven stocks a 2-lb. bottle of syrup every night for the last ten nights, and intend continuing this until the end of month. 2. Ought this to be sufficient, and do you call it "rapid feeding," or would they do better if I gave them, say, 4 lb. a night for the last five or six nights? 3. I notice in a dealer's catalogue a frame-feeder for Costa Rica sugar or candy, for using with driven bees. If I gave each of my driven stocks one of these after finishing syrup-feeding, would they be helpful, or do you prefer candy under the quilt? 4. Do hives holding fifteen frames give good results in working sections, or frames for extracting at back, behind the excluder, or do you prefer the ordinary 10-frame hive for tiering-up?—NOVICE, *Liskeard, September* 19.

REPLY.—1. We should certainly clean away all accumulated debris from floor board before packing the bees for winter. 2. Two pounds of food per night cannot be called other than "rapid feeding," though with very large feeders an increased quantity could be taken down if desired. If the driven bees have combs to build or draw out they will need more than 20 lb. of syrup. We should examine the condition of combs and stored food after about 25 lb. have been given, and regulate remainder of feeding by results. 3. Some bee-keepers use dry sugar in feeding up driven bees, and you might give it a trial if genuine Porto Rico sugar can be got. In establishing stocks from driven bees, however, syrup should always be used, as being so much more readily utilised than either dry sugar or candy. Our personal preference is for giving candy directly over the cluster in winter. 4. We do not think the plan of working for either comb or extracted honey at rear of brood-nest meets with much favour nowadays. For ourselves, we certainly prefer to work for surplus on the storifying plan, and using a hive holding ten or eleven frames.

CUTTIN' A BEE TREE.

A CALIFORNIAN BEE STORY.

Shasta Mountains, Cal. —*Editor, Forest and Stream*:—SIR,—I feel considerably stuck up. That phrase is not to be taken as slang, and I am sure I have seen too much of the world to feel as though I was anybody in particular. I have merely been "cuttin' a bee tree" and getting some wild honey and some of the things that go with it.

I have noted from time to time what you and your contributors have been giving us about bee-hunting, the last article I remember being in your number of February 1, and signed by "Hermit." I would like to have his full name, also his photograph, so when I meet him I will be sure that I have got him. I am a hermit myself, but I never monkeyed with a bee tree until to-day, and I followed some of Hermit's directions.

Hermit writes a very graphic and pleasing epistle. No doubt he told all he knew about bees, and something more; but there is a quantity of wisdom and knowledge that is evasive. I am quite positive just at present that Hermit let some of it get away. He may

know something about some bees, but if he will call around in this vicinity and chop down a bees' nest he will get some "points."

You see, it was this way. I've been hankerin' after honey. I wanted to get some myself, and, besides, I wanted a few bees to help fix up my ranch with. *Forest and Stream* talked about bees and honey, and when they commenced coming to my garden this spring I commenced to pike around after 'em. I fixed up some bait and got 'em to coming to it all right, and then I watched them.

I got several courses. In fact, as near as I could tell, every one of them had a course of his own. Once in a while one of them would go up the creek; so I went up the creek. After chasing them for two or three days I had coursed them about 300 yds. Then they began to go wild. Most of them would fill up on my bait, make two or three false motions, then zigzag around a few times, shoot up toward the sky, and neither I nor my dog could tell where in thunder they made for. Finally, I left my bait out and there came a big rain and destroyed it; then I quit for awhile. I was not completely discouraged, but I thought I was losing my interest in bees.

One day a man came by my shack. I don't see a man very often in this vicinity, so I had a talk with him. After a chat he said:

"Wal, how is it ye never cut that bee tree up thar?"

"Well," I replied diplomatically, "it's most too far, and in a kind of a bad place to get at."

"Fur?" said he. "Why, it ain't more'n a quarter, and right alongside of the creek and the road. Couldn't be in a better place."

"Oh, you mean that dead white oak near the crossing?"

"Naw, I mean the big black oak, with the top broke, near where some feller has been makin' cedar posts."

"Oh," said I, in a sneaking kind of a tone, "I've calculated to cut that tree, but I thought I had better wait and give the bees a chance to get some honey." I added conscientiously to myself, "besides, I'll be hanged if I knew that tree had bees in it."

"Wal," said the man, "I'd cut it now and save the bees; they'd have time to fix up for winter. They're workin' strong now."

Then my visitor commenced telling bee-yarns. As soon as he left I went up to see the tree. Sure enough, they were there, "b'ilin' out of it by handfuls," about 30 ft. from the ground. The tree was just out of my road up the creek, and I had passed it about 1,100 times. Then this man, passing it for the first time, had seen the bees at once. Such is life.

It was a large tree, about 2 ft. in diameter, and I thought it was sound at the base. It looked like a big contract for me to cut it down alone, and I waited two or three weeks for some one to come along who would like to take a hand. Finally a party of surveyors came along. I asked them if they would like some honey. Oh, yes, they would. Then I told them about how by cutting the tree we could get some. Well, they rather guessed they didn't have time; besides, they didn't understand cutting bee trees no how.

I then worked three days and made two first-class bee-gums, with two compartments and numbers of frames, air-holes, &c. I still look with pride on what I consider a neat job.

When I had finished the gums I couldn't wait any longer. I wanted honey bad—having been entirely out of it for several years—and, besides, I wanted to see those bees in my new hives working for me on the ranch.

I got all the things together that I expected to need, took my axe and a bee-gum, and went up to see the bees. I reached their front yard about four o'clock in the afternoon. I could see from the ground that they were open to business. It was one of the warmest days we have had this year, and I think bees are lively on warm days.

I figured on the tree and thought I could chop it down in an hour and a half, and I wanted to monkey with the bees about sundown. I thought it would be pleasanter in the cool of the evening. The tree was in the shade of some tall pines, and I went to work. I chopped out a good-sized chip, and listened. I didn't hear anything buzz or whiz, so I kept on. The bees acted very civilly—they were so high up in the world they simply ignored people on the ground. But they didn't know I was going to take 'em down a little. The tree was hollow to the ground, and when I had blocked out one side I saw I had time enough.

I rested awhile. I sort of like to rest while chopping, which is a good deal like labour. I never labour without resting whenever I have a good, square chance. But the mosquitoes were so bad I thought I might as well chop, and before I expected it I cut through into the hollow so far that the tree began to crack, then it squeaked, tottered and fell with a crash—an hour ahead of time! There was a granite boulder 30 ft. from the tree. The bees seemed to be doing business in the honey line about 30 ft. up. I calculated to drop them on the boulder, which would open up their works in all probability without further use of the axe. The tree fell on the boulder and burst like a pumpkin! The entire domicile of the bees was opened up to the public, which was, at this place, two dogs and myself. I sneaked up a few feet to see how things looked before I put on my prepared armour, which I had near by.

I didn't get a very good view. I came away too soon. The air all at once seemed to be one solid whiz, and was so full of bees that my dogs gathered a lot of them without trying, and went off as though they wanted to get away from there. One of the dogs was a small, short-haired dog, and very black. When he left I could see he was full of little

yellow spots that looked like spangles. They were bees, and they clung to him as though they had never had a dog before. The dog acted as though he had never had bees behind before.

(Conclusion in our next.)

Bee Shows to Come.

September 26.—At the Corn Exchange, Jedburgh. Annual show of Roxburghshire B.K.A. Twenty-eight classes, all open to members free of entry-fee. Entries close September 22. Thos. Clark, secretary, Pleasants Schoolhouse, Jedburgh, N.B.

October 17, at the Town Hall, Rutherglen, N.B. — Second Annual Show of Honey, Appliances, Fruit, Vegetables, &c. For schedules, apply to John Stevenson, secretary, Maryton Braes, Larkhall, N.B.

October 20, 21, 22, and 23, at the Royal Agricultural Hall, Islington, London, N. Twenty-first Annual Show of the British Dairy Farmers' Association. Eight classes for honey, with liberal prize money, and a class for interesting and instructive exhibits connected with bee culture. Entries close September 21. Schedules from the secretary, Wm. C. Young, 12, Hanover-square, London.

November 18 and 19, at Newcastle-on-Tyne. —Northumberland and Durham B.K.A., in connection with the Horticultural Society's Chrysanthemum Show at the Town Hall. Three open classes. Entry fee, 1s. each class. Schedules from J. N. Kidd, 29, Windermere-street, Gateshead. Entries close November 13.

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

M. B. O. (Dover).—1. We fear the piece of comb sent for inspection has miscarried in post, as it is not yet to hand. For the rest, it is quite common for some brood to hatch out, even in hives rather badly affected, with disease, while in many instances by far the greater portion of the brood is quite healthy amid a small quantity of larvæ affected with foul brood. 2. The red "parasitical growth" noticed is probably not a growth at all, but the parasite known as *braula cœca*, or blind louse. See if they do not move on being touched, and write us again. 3. There are found at times bees much blacker in colour than the ordinary insect of to-day. These dark bees are usually small in size, but good workers. We have heard them called the "old English bee;" they are also declared by some to have been quite common in this country fifty or sixty years ago.

F. B. Thompson (Boston).—*Amount of Food for Winter.*—1. If skep now weighs 25 lb., it will do for winter. 2. The "box" tenanted by bees should have 15 lb. of sugar made into syrup before it can be reckoned safe so far as stores, and, if well protected from wet and cold, may do well. 3. Feeding may be needed in spring. 4. There is no sure way of preventing swarming.

Escowbank (Caton).—*Space below Frames in Winter.*—By making a frame of wood two or three inches deep, and the exact size of brood-chamber, it only needs the hive lifting on to this frame and leaving it there until April next to secure all the advantages you desire.

Nemo.—Though not at all a bad case, we find traces of foul brood in comb sent.

S. H. Lawrence (Cheltenham).—*Medicating Bee-food.*—We should not think of going so far as to extract all unsealed food in comb because of learning that there is disease in the district, and the syrup given was not medicated. We should merely medicate what food is required, and feed again in spring as soon as breeding starts.

W. Horton (Flixton).—*Eggs Failing to Hatch.*—When eggs are found in cells still unhatched, after a period of "two or three weeks" has elapsed since they were deposited therein by the queen, it may be very safely assumed that they will not hatch at all. There must, however, be a mistake somewhere, seeing that eggs not intended for hatching, or which from some cause have been left uncovered by bees for some time, and so allowed to "perish," will be cleared out of the cells by the bees themselves in course of a day or two.

Special Prepaid Advertisements.

Situations, Publications, Bee Plants, &c. — Up to Twelve words, Sixpence; for every additional Three words or under, One Penny.

TWENTIETH YEAR.—Strong Stocks BEES, fit for wintering, in skeps, 12s. 6d.; 15s. 6d on rail; package free. Alsford, Expert, Blandford. N 64

LIMNANTHES DOUGLASII.—Plant now for early spring bloom; 1s. per 100, post paid. G. Smith, Llanellen Court, Abergavenny. N 63

FOR SALE, Stocks of Healthy Natives, with abundant stores for wintering; on Standard Frames. No hives. H. Witt, South Ascot, Berks. N 62

Editorial, Notices, &c.

CHEAP CARRIAGE FOR HONEY.

IMPROVED RAILWAY RATES FOR RURAL PRODUCE.

In an editorial on September 17 we drew the attention of our readers to the extremely favourable rates ruling on the Great Eastern system for the transmission of parcels of farm produce not exceeding 60 lb. in weight. Provided the sender conforms to the company's reasonable stipulations, he can forward no less than 20 lb. of rural produce from the extreme limits of the Great Eastern system to his customer's own door in the metropolis for the ridiculously small sum of fourpence! We believe that this excellent reform is largely due to the perseverance of Lord Winchilsea, through whose untiring efforts we can no longer complain (at least on two great lines) of hindrance to business from railway charges.

We are pleased to say that the Great Eastern are not to be alone in setting so excellent an example, for the Great Northern have likewise issued a notice of special rates for farm and market-garden produce, and that, too, *irrespective* of distance within the limits of their own system. It is true that the rates are somewhat higher than those of the Great Eastern, but the Great Northern do not stipulate for any special sort of box, and the distances are greater than on the Great Eastern Railway. Twenty pounds of produce can be sent for the minimum charge of 6d. all the way from Grimsby or Doncaster, and delivered free within London limits. The Great Northern rates are—20 lb., 6d.; 30 lb., 8d.; 40 lb., 10d.; 50 lb., 1s.; 60 lb. (maximum), 1s. 2d. No special boxes are required, but the goods are sent at "owner's risk." Prepayment by stamps is also stipulated, and the packages must be such as will admit of other parcels being placed *upon* them. Consequently, packages open at the top and cross-handled baskets will not be accepted for conveyance under these special rates.

Now this "following suit" by the Great Northern is an excellent sign. Other railway companies cannot remain aloof, and we shall very soon see like facilities granted on the other big lines. At present the special rates only rule within the company's own systems, but doubtless uniform rates and "through booking" will ultimately prevail. With the same facility that we can now send to and from any part of the Great Eastern Railway or Great Northern Railway, we shall probably be able to book a parcel at a cheap through rate from Land's End to John o'Groat's! It is only reasonable, of course, to expect to pay something extra for through booking when every part of the kingdom will be thrown open to participation in the same privileges.

But the low rates on the Great Eastern Railway and the Great Northern Railway are not the *only* advantage. These companies publish a most excellent list, containing the names and addresses of producers on their system, and the kind of produce each one can supply. The Great Northern "Directory"—which is before us as we write—contains no less than about 400 names and addresses of people who can supply butter, eggs, honey, fruit, vegetables, poultry, &c. We regret to see very few names of bee-keepers on these lists so far, and that is one reason why we call special attention to the new facilities. The "Directory" is distributed free, and forms a splendid advertisement for all whose names appear in it, besides being entirely gratuitous. Those who have honey to sell should therefore get their names inserted. It really seems as if that much-objected-to "middle-man" is at length to be largely dispensed with. The railway companies are already stepping into his place without making any but the most modest charge. Facilities are more likely to increase than diminish, and collection of the money in payment for goods dealt with may, and probably will, be combined with cheap delivery. Anyway, we have it as an established fact that for a sum that is almost inappreciable, the railway company receives your produce with one hand at the sending station, and with the other deposits it on your customer's door-step!

As evidencing the way in which the desire to foster rural industries—including bee-keeping—is extending, we quote the following remarks from a recent issue of a London daily paper on the

subject:—"A notable feature of the Education Department in Russia is the establishment and rapid development of small farms, orchards, and kitchen gardens in connection with the village primary schools. In the province of Ekaterinoslav, in South Russia, nearly half the schools have model gardens, orchards, small farms, or plantations of trees, the area of two hundred and seventy-seven such farms or gardens being 283 acres. These contained last year 111,000 fruit trees and 238,300 planted forest trees, whilst during the same period nearly 14,000 of the former and 42,000 of the latter were distributed gratis among the pupils. Special attention is paid to the planting of forest trees, as the province is almost treeless. In addition over 1,000 bee-hives were kept, and some schools had vineyards. All this was accomplished with a Government grant of only £314, and small money grants from the local councils. The land was given by the village communes or neighbouring landlords. In the Caucasian province special attention is paid to silkworm culture, and the nature of the cultivation taught in every part of the country is determined, of course, by considerations of adaptability and the future development of the district. The movement displays a sane and comprehensive grasp of the needs of the people, and of the part the school should play in bettering their condition and augmenting the national prosperity, and it is remarkable that the machinery employed to promote it should be so cheap and simple."

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

BEES IN NORTH YORKS.

[2630.] According to promise I send you a report of bee-keeping for this district of the North Riding. The season opened early with abundance of bee-forage, flowers everywhere, fruit-trees laden with bloom, and hawthorn-hedges covered with it. The bees simply revelled amongst the may-flowers, and the perfume of hawthorn honey was discernible at a distance of ten or twelve yards from the hives, while the glad hum which sounded therefrom after the labours of the day were over was music to the bee-keeper's ears.

Six of my stocks gathered about 2 cwt. of flower honey, but though the clover looked as if likely to yield well, appearances proved deceptive; for only two or three days did the bees work the clover, and there never seemed to be a flow of honey in this plant at all, presumably owing to the dryness of the soil through want of rain.

Swarming set in early in May (though there were one or two in April) and continued into July with unabated vigour; and where the apiarist was a skeppist he had his hands full; two or three of the latter class hived every swarm and cast in separate hives, sometimes to the loss of the old stock altogether; many swarms took a bee-line to some distant wood or hollow tree without stopping to cluster at all when they came out.

I have heard of several who had similar swarming experiences. After the failure of the expected clover honey, our hopes naturally centred on a good harvest from the heather, which never showed greater promise than this year, as all bee-keepers declared that the appearance of the purple bloom on the "ling" was indicative of a very large yield of honey. But disappointment was again the lot of the bee-keeper. For the first two weeks after the bees were taken to the moors there were four or five days on which they made the best use of their time and secured plenty of stores for themselves, and got to work in the sections; but later, and just as the heather looked its best, there came a change for the worst, the weather broke, and we had a superabundance of rain, with cold winds, making it impossible for the bees to store any more honey. We had certainly a few odd days of fine weather, but the bees seemed unable to add to their surplus, what they gathered evidently just sufficing for their present needs.

The result of the heather season has been (and we may all take a lesson from the fact) that strong single stocks have probably most of them filled a single rack of sections, and where two stocks were united for the heather the result has been double or treble the amount of surplus; but weak stocks have barely made themselves safe for keeping, and late second swarms have failed altogether to store near sufficient for the winter.

I have driven over forty stocks this autumn and never found them so light; only two or three have had over 3 lb. weight of bees, the greatest number having been under that weight, while several have not exceeded 2 lb. First swarms have invariably had the most

bees, hough old stocks sometimes had most honey.

I was "driving" at one place where not a single member of the family had ever seen a queen-bee, though they had kept bees for years; so I caught a queen-mother as she ran up, placed her in a travelling-box, and, with a piece of glass over, showed her with a few workers for contrast. One of the family (all grown up), asked me how many queens there were in a hive. I am going to send a book on "*Modern Bee-Keeping*" to this house.

I have also examined a good many frame-hives when going about, and am always on the alert for the enemy, foul brood, but I am glad to say I have not seen a trace of it in this district so far, though in one hive I found a sealed queen-cell, which aroused my suspicions at once; but on carefully opening it with my penknife, I found it full of heather honey. Did you ever hear of such a thing before? [Never.—EDS.] The cell was a full-sized one, hanging at the outer edge of a comb.

A good many bee-keepers of the old school still use the sulphur pit; two or three of them prefer it to letting any one drive the bees for them, through inefficient bee-keepers attempting to drive, but failing, and causing an upset among the whole apiary, which can be avoided with a little care.

I hope that we shall have a good time at the Dairy Show.—R. NESS, Hon. Sec, Helmsley and District Bee-Keepers' Association.

DESTRUCTION OF QUEEN CELLS.

[2631.] In the early part of last spring I had a skep of bees which gave promise of giving off an unusually strong swarm. Nearly two pounds of bees had to cluster on the outside of the skep. I daily expected the swarm coming off, but to my very great disappointment it failed to do so, and I had reluctantly to come to the conclusion that the queen cell had been destroyed. The first flush of the hawthorn bloom was on, and as I had failed to obtain a swarm I was naturally anxious to make amends by a crop of honey.

With this object I placed my skep upon ten association standard bar frames supplied with whole sheets of "Given Press" foundation.

The bees showed very little inclination to work, and the result of their labours for the spring and summer months is five or six pounds of honey stored in the bar frames, plus a skep full. Having failed to obtain a swarm in the spring, I decided on making my stock into two. There was brood in all stages in the frames, so I took the skep containing the queen and placed the same on a separate stand.

On the third day I examined the bar frames and found eight queen-cells formed with grubs in. On the tenth day I examined and found queen-cells all right. On the seventeenth day I examined and found only one queen-cell, the others having been ripped out. The next time I examined I expected to find a young queen; but to my utter disgust I found that the cell had been destroyed and the queen with it.

I now possessed a queenless colony, and as the drones in my apiary had all been destroyed, it was useless attempting to raise a fertile queen.

I may here state that a more vicious lot of bees than this queenless colony turned out it has rarely been my lot to come across.

My last resource now was to obtain a fertile queen, and with this object I obtained a driven lot of bees, and successfully united them. They have now lost a lot of their former irritability, but are nothing near so gentle to handle as they were in the fore part of the year.

Can any of your readers give me an explanation "Why a queenless colony should commit wilful suicide in such a deliberate manner?" —JOHN GOODALL, *Dosthill Lodge, Yamworth*.

THE FOUL BROOD LEAFLET.

ITS USE TO EXPERTS.

[2632.] As a bee-man whose time in the summer and autumn months is occupied in helping others in the craft, I was requested recently to transfer a stock of bees from an "apple-ring box" to a bar-frame hive, and had begun the operation of cutting out the combs, when the second comb revealed a very bad case of foul brood; large patches of brood more or less affected, with only here and there a pearly-white grub. Two combs lay on the table. I said to the owner "I cannot go on with this operation; this stock is badly affected with disease. Did you get the leaflet I posted to you a few days ago?" He said "Yes; I think I have it in my pocket." On searching the pockets the leaflet appeared. I placed the illustration of the leaflet by the side of the combs diseased, gave a little teaching on the subject, and persuaded him to burn the lot. He readily consented to do so, and soon some dry hay and turpentine were obtained, and the contents of the box was destroyed.

I think if experts were to furnish themselves with copies of the leaflet, and in going their rounds discover a case of foul brood, there and then show demonstratively the disease to the owner of the stock, and leave the leaflet with them, they would soon be educated to the necessity of taking drastic measures for ridding themselves of the disease. —J. BROWN, *Polyphant, Launceston, September* 22.

THE ISLE OF MAN AS A BEE-COUNTRY.

[2633.] As I have moved to the Isle of Man, and am now living in Douglas, I would like to ask any reader who knows anything of

the island what is the average weight of honey generally got there, and quality of the produce. I see there is plenty of heather on the hills and mountains; white clover, too, seems very plentiful; which makes it appear a good place for bees so far as forage is concerned. Numerous other flowers also seem to do well here, especially the fuchsia, upon which I have noticed the bees at work on wet days, no doubt on account of their pendulous flowers. I would also like to know whether foul brood has established itself on the island or not, and if so, to what extent and in what district. I have hives waiting to be conveyed here, but shall keep them back till I get more information on the island as a bee-country. I cannot quite understand a passage in B.J. of September 10 (2613, p. 365) where a correspondent, writing from Devon, says, "When one takes into consideration the short summer there, together with the severity of the climate," &c. I should like to ask when the summer became short and the climate severe in Devon. There are many who, like myself, think well of Devon. I would like to know when the old county altered its character.—THOS. J. HORSLEY, *Douglas, I.O.M.*

SPUR VALERIAN: IS IT A HONEY PLANT?

[2634.] In answer to your correspondent, "A Kent Bee-keeper" (p. 386), whether bees are partial to the *Centranthus ruber*, I should say *not*. The corolla, which is spurred at base, is too long and too fine to allow the bee to avail itself of what little nectar the valerian might secrete. The plant is not a native of this country, but nevertheless is very common in limestone quarries, chalk pits, and on old garden walls.

It is a perennial, and a white variety is also known.—R. HAMLYN HARRIS, *Hambrook, Bristol, September* 25.

COMEDY AND TRAGEDY IN BEE-KEEPING.

[2635.] As a fitting contrast to the Californian Comedy, of which the first act appears in your issue of September 24, I beg to send you a tragic tale, narrated in Rudolph Slatin's book "Fire and Sword in the Soudan."

Slatin observed some curious earthenware vessels in the trees of a village in the Western Soudan, which he discovered were bee-hives. The sheik of the village, after smoking the bees with wood and straw, presented Slatin with some excellent honey, but warned him to encamp his men at a respectful distance, for fear the bees should deliver an attack.

It appears that one of the soldiers, like your Californian Comedian, "hankered" for honey on his own account; so, protecting face and hands by folds of clothing, he ascended one of the trees in quest of spoil. The bees attacked him furiously, with the result that he fell out of the tree insensible, and was brought into camp horribly disfigured, his mouth distended and his tongue swollen and protruding so that he was completely beyond recognition; he never recovered consciousness, but died in an hour and a half. Slatin was warned not to defer the departure of the troops, but march before sunrise, as the bees were nearly sure to attack the troops after the sun was up.

How fortunate for us that our bees do not know their power; were it otherwise, bee-keeping would soon become impossible.—"T," *September* 25.

P.S.—It is some time since we have had any letter from your Egyptian correspondent.

BEE-KEEPING IN WEXFORD.

[2636.] It is my unpleasant duty to chronicle one of the worst years for bee-keeping in this district I ever remember. I commenced the season with thirty-two stocks, all strong and fit for sections about June 1, but the drought, which lasted here from April 1 to the middle of July, dried up all sources from which bees could gather nectar. Twelve stocks did nothing at all in sections, the other twenty starting to store in them about July 1, and completed about five hundred sections, mostly from worked-out comb of 1895, from which the honey was extracted last autumn. On looking over all hives on September 1 found them fully occupying ten frames of honey and brood, and boiling over with bees; so I hope to have them strong for next year, and without having to feed either now or in the spring. I have had only one swarm this year.—J. D., *Wexford, September* 24.

SWARMING—ITS CAUSE AND PREVENTION.

BY GEO. F. ROBBINS.

I notice by the report of the Chicago meeting of the Illinois State Bee-Keepers' Association (page 103), that the "swarming-fever" struck the convention. I wish I had been there to doctor them. I could have cured them. In other words, I know why bees swarm. There are a great many things about bee-keeping that I do not know, many that I am uncertain about, many things I think; but this one thing *I know*. And knowing the causes, I practically know to just what extent swarming can be prevented, and how to do it.

Now if you will all give me your attention, I will tell you what I know, and add a little, perhaps, that I do not know; but I will tell you when I come to that. And when you have read what I have written, if it is too hard for you to remember, file away this number of the *American Bee Journal*, or cut out this article and paste it in your scrap-book.

Then if ever this matter begins to exercise you again, just look this up, read it, and set your questionings at rest.

It is not enough to say that it is the nature of bees to swarm, therefore swarming cannot be prevented. Indeed, the premise is not exactly true. It is not enough to say it is the nature of corn to grow, therefore it will grow. In order to reproduce and propagate the species, Nature has implanted in the grain of corn a germ, which, if fed and nursed according to Nature's laws, will grow and become a sprout, then a stalk—otherwise it will remain a latent germ or perish entirely.

The bent to swarm is not primarily the nature of bees—it is not itself the germ. It is only a form or outgrowth of the instinct to reproduce and propagate the race, which is implanted in the bee as in all other species of the animal world. That instinct is the organic principle—the germ which, if properly fed and nursed, develops into the disposition to swarm. Now, the question is, Can this want of their nature be supplied some other way? If it can, and we can discover the "how," the problem of the prevention of swarming is solved.

Obviously the first thing to do in order to arrive at an answer to this question is to ascertain, if we can, the more direct causes of the swarming impulse. Now is the time for me to tell you why bees swarm. Notice:

There are two sets of conditions that conspire to this end. The first set ministers chiefly to the instinct for procreation. They are these:

First—As conditions wax and wane, they have the effect to correspondingly stimulate and depress the energies of bees and queen alike. I would tell you why this is so, but it is too large a subject to enter into now. The same circumstances may be present in the same degree in May and September—in June and August. Yet in the former two months life and enthusiasm are thriving, while in the latter they are dying out.

Second—Anything that rouses bees to action incites to brood-rearing. I have known a warm spell in November, with some disturbance of the brood-chamber in preparing bees for winter, to start the queen to laying.

Third—The favourable stimulating conditions we find present in the earliest parts of the season are:

1st. The weather grows warmer and more settled. 2nd. Honey and pollen begin to come in. How a little smell of nectar will excite bees is one of the familiar sights of the apiary. 3rd. The bees that are hatching out in ever-increasing numbers can nurse still greater quantities of brood. That is, one young bee can feed and care for more than one egg and larva. 4th. There are an ever-increasing number of house-bees that really want something to do.

Fourth.—In no respect is the stimulating effect of these things more potent than upon the queen. A flow of nectar hardly rouses the bees themselves more than its ingathering, and the hatching of young bees as well, does the one bee whose strongest instinct and only duty is to lay eggs.

Fifth—This, the climax of the series, consists in the fact that in the month of June all these conditions are present in the highest degree. Throughout the season thus far there has been an almost uninterrupted boom. Now the boom has reached its height. The weather is the most propitious, more honey is coming in than ever before, there is more brood in the hive, more bees hatching, more house as well as field bees with nervous powers stimulated to the utmost; and as a result of all these things, the queen will lay more eggs than at any time in the season.

It may be you knew all these things before. If you did not, you know them now. But I want to note particularly how these conditions, in their effects, forces upon the instinct for procreation, that same ponderous thought I gave you awhile ago. All incited to brood-rearing, and upon that one thing centres all the activities of the hive. The propensity to store honey itself is subsidiary to this, even though upon it the bees may for a time expend the greater share of their energies.

Right at this juncture the other set of conditions arises. Honey is now coming in so rapidly that there is not sufficient room in the hive—now pretty well filled—in which to store it. Bees will not go into empty chambers and build comb in which to store honey so long as there is any empty comb in which to put it. It is much the simplest and quickest way to run it into the receptacles already constructed. When they are finally driven into suplus apartments, the progress of secreting wax and building comb is slow. Hence, every empty cell in the brood-chamber, and often, perhaps, those in which eggs have been laid, are speedily filled with honey. As fast as the brood in the outer circle of the brood-nest hatches, the comb is filled and sealed, while all through the nest are cells filled temporarily, especially in the latter part of the day. Often there is scarcely a cell left in which the queen can lay an egg. As a result, we have now the following set of conditions:

First—At the very time the queen wants to lay the most eggs, she is most hampered for room.

Second—At the very time the nurse-bees are prepared to feed the most brood, there is least of it—unsealed—in the hive.

Third—At the very time the nervous powers of the house-bees are most excited, they must, to secrete wax, be most quiet. This is an item that alone would be insignificant, but along with the other causes it helps to swell the aggregate.

Fourth—The blood of the queen acquires an enriched character owing to the check in egg-production. It is Hasty that says this, but it meets my indorsement.

Fifth—The vessels in the bee-anatomy in

which are stored the supplies for future brood-rearing become "turgid" (Hasty again)—simply gorged for want of brood to which to give the food.

It is easy to see that we have here a state of things that makes queen and bees alike uneasy and discontented. Now it is that, according to Nature's law, the instinct to reproduce their kind, which cannot be satisfied in the hive under existing circumstances, develops into the impulse to swarm.

If what I have written is true—and it is—the way to prevent swarming is briefly this: Allow unrestricted room for brood-rearing. Simply have a large brood-chamber, then, to keep the bees from filling it with honey, have plenty of available storage-room above—that means empty combs. Notice what Mr. Draper said at the convention (page 103). He uses a large Quinby hive, keeps plenty of combs in the upper story, and runs for extracted honey. In that way he keeps down swarming. Of course. I could have told you so. I knew swarming could be prevented that way before he said so.

But how to prevent swarming when running for comb honey, and not at the same time seriously interfere with honey-storing, is the problem. Four methods have been tested and some success claimed with each, viz.:—

1. Remove the queen, or cage her in the hive for about ten days.

2. Replace queens with young ones before swarming season arrives.

3. Remove the brood a short time before the swarm is likely to issue—perhaps a week, more or less.

4. Practice shifting the bees back and forth from one hive to another. Only one of these methods exactly meets the conditions laid down. This is the third one. It is easy to see why the first method succeds. I do not know what to say about the second one. If the fourth one is successful it is because—

1. Any considerable derangement of the internal affairs of the hive tends to disturb and divert the bees from their purpose for a time.

2. It takes some time to get queen-cells started in the hive that catches the bees.

3. It meets in part the conditions that cause swarming.

It takes some time for the boom in the colony that has for a while been so depleted of bees, and to some extent of honey, to again reach its height. By this means swarming can be delayed until the sum of conditions that cause it begin to stagnate and decline. I think I kept two colonies, sitting side by side, from swarming by this method in 1893, when a regular swarming mania had struck my apiary. I simply set one hive off the stand about a foot, turning the entrance at right angles (or less) to the other, and in four or five days put it back, and set off the other one. Of course, I shifted the supers with the bees. About four shifts did the work. For two years I have had no chance to test the plan, as the seasons have been so poor that there has been no swarming at all. If it is a success, the Langdon non-swarming device, or something like it, is just the thing. I hope I shall have occasion to try this method the coming season, then it may be I will tell what I have learned.

I have frequently prevented a colony from swarming entirely by taking away the brood. Sometimes I have replaced with empty combs, but if I want to get a good crop of comb-honey I remove every comb, putting the queen and older bees into an empty brood-chamber contracted to five or six frames, the latter containing only starters of comb-foundation. This, of course, is practically artificial swarming.

There are some other points upon which I would like to touch, such as re-queening *à la* Hutchinson, and the possibility of breeding out the disposition to swarm; but as this is already one of the longest articles I have ever written, I forbear.—*American Bee Journal.*

SUPERSTITIONS ABOUT BEES.

HAVE THEY HUMAN SYMPATHIES?

A lady reader of my former letters sends me some interesting notes about bees. Perhaps you may remember when you and I were at Ramsbury Manor-house the bees had taken possession of the roof of an old out-of-the-way garden summer-house, and that an old man told us that these bees had forsaken their regular hives for this place, because the bee-master had neglected to inform them on the occasion of a death in the family belonging to the manor. He said that it was a well-known fact that bees, if they were not told by knocking on their hive and by the voice of a death in the family they would either die or leave their hive. I can scarcely believe this to be more than a superstition, founded on an occasional coincidence, but here is a plain statement of fact that at any rate is curious. My lady informant writes:—"There is a remarkable superstition (?) that obtains in Hants, and I think in all bee-beeping provinces—viz., that on the decease of any member of the family a man has to go round to the bee-hives, tap them gently, and tell them of the death, or else the bees will die before the next swarming time. That they die if *not told* I have proved to be a fact in my own family, and the only explanation I offer is, that by or through the wonderful instinct of the bee it divines that there is a shadow of misery over the home they are connected with, which so overclouds their sensitive nature that they need the reassuring mesmeric touch of the human hand and voice to keep them in health or life. On the death of my youngest son, —— came to ask me if he might go tell the bees; not

understanding the old custom of that county I marvelled, but said "Yes." It was done, and the bees remained; but on the death of my brother, some time afterwards, though I counselled the same, the matter was pooh-poohed, and the bees all died."—*Riverside Letters. By George D. Leslie, R.A.*

Queries and Replies.

[1551.] *Starting Bee-keeping. A Beginner's Queries.* There are a few bee-keepers scattered about here, and I am one of them; at least, I know of none within five miles, and none personally. The cause of myself starting I attribute chiefly to a bee-demonstration at the Yorks. Show of '95. There used to be a lot of bees kept in straw skeps in these parts, being close to the moors, but for some reason it has died out this last twenty years. When I asked an old bee-keeper if he could account for the falling off, he said, "Well, there's few honey-falls now; they used to be very heavy; regular patches under trees." I did not argue to the contrary, but made up my mind to give bees a trial; so I obtained a swarm and modern hive, and they seemed to do well (you may guess what people know about bee-keeping when they ask "if bees have to be caught one by one and put in the hive," and such questions). I put on a rack of sections in June, but the bees did not enter till the heather began to bloom; then the wet weather spoilt that harvest, with the result that I had only twenty-one unsealed sections. I pressed all but two of these, and got a few pounds of unripe honey from them, part of which I sold, warning the buyers of its "unripe" state. The others I gave to the bees. I then removed the side combs, putting them behind the division board till the bees had left—and not till I had got them out of the hive did I find they were the best, the remaining seven having only two or three inches of sealed food, and covered with bees, which appear to me strong.

1. How much syrup should be given yet? I am giving food through the nine holes of the bottle, and they take less than a gill a night (I am thinking of giving a 2 lb. cake of candy). 2. I have two unsealed sections; how shall I give them to the bees to be emptied without breaking the comb? Shall I put them behind the division boards? 3. How can I get the honey from the two combs without an extractor; is there no possible way of dropping it, &c.? 4. Is albo-carbon hurtful to bees to use instead of naphthaline, and will common methylated spirits do for naphthol beta, as that is what I am medicating with? Naphthol beta does not improve the taste of the syrup; I suppose it is right that it should taste a little? 5. The Cowan hive drawn to scale in "Guide Book," I understand, is for nine frames and two division boards, and yet ten frames are recommended? Is the hive of nine frames and two division boards called a ten-frame hive, and if not, do you recommend a frame more? 6. You recommend oil-cloth glazed one side—is it porous?

Some of these questions may look simple to those who congregate, but I have no one to consult. I have "Modern B.K." and "Guide Book," and take the *Record* and JOURNAL and read every bit on bees I can lay hands on.

I should like to see a series of articles on what flowers to grow, giving their intelligible names and the respective merits of bloom, written by yourselves, or by any correspondent wishing to publish his knowledge on the subject.—JOHN H. PRIESTLEY, *Yorks.*

REPLY.—1. Half-a-dozen pounds of sugar made into syrup, along with the proposed cake of candy, will be ample stores for winter. 2. Yes, if division board has passage-way below for bees. 3. Only by cutting combs into slices and letting honey drain from them. Heather honey needs to be "pressed" from combs. 4. It is of the same constituents, but we cannot advise as to the proper safe dose for bees, not knowing its strength. 5. As described on page 35 of "Guide Book," the Cowan hive is made to take from ten to thirteen frames. 6. For non-porous coverings oilcloth is best, but not otherwise.

[1552.] *Getting Bees to Clear Sections.*—Will you please say what I ought to do with two racks of sections containing quantities of unsealed honey? The cold weather in July having interfered with their completion, I left them on the hive, thinking that at the end of the honey below the bees might take the honey down into the brood chamber, but they have not done so. I have only one hive.—GABOON, *Manchester, September* 25.

REPLY.—If you possess an extractor there will be no difficulty in removing the honey. Otherwise, cover the queen-excluder zinc—which we suppose separates the sections from brood-chamber—with a non-porous quilt, leaving only the feed-hole in centre open. Then set the sections above this, and remove all coverings save a light calico one. This will cool the surplus chamber, and if bees are not over-provided with food below they will take it down. At least, we have often got sections cleared in that way.

[1553.] *Wax-moth.—Colour of Heather Honey.*—Would you kindly give me some information on the following two subjects:—1. On looking over my hives I find one of them over-run with a white worm about seven-eighths of an inch long. Is this the grub of the wax-moth, and if so, how can I rid the hive of them? 2. What colour should heather honey in bottles be? I have run some stuff which I am in doubt about. I always thought that heather honey was yellow, but

this is almost the colour of porter.—AMATEUR, *Forres, N.B., September* 28.

REPLY.—1. It is most probably the larvæ of wax-moth. The best way of keeping them out of hives is to keep the bees strong. The moth can never inflict harm on a strong colony of bees. When combs are "over-run with moth grubs" they may be said to be worthless except for melting down. Fumigation with sulphur fumes will kill the larvæ, but the combs will be irretrievably damaged already by them. 2. Good heather honey is of a light purplish-brown colour when seen in bulk. In the comb it most resembles the colour of marmalade.

[1554.] *Taking Wasps' Nests for Exhibition.*—Can you tell me of any way to destroy wasps without damaging the nest? A friend of mine has found one about as large as a big skep up in his attic, and we wish to kill the wasps and take the nest just as it is, as we want to exhibit it. I am informed that cyanide of potassium would do this; if so, can you give me directions as to using it?—THOS. KENDALL, *Knittleton, September* 21.

REPLY.—The first convenient evening, after wasps have retired for the night, paste up crevices round window and over the wasps' entrance. Then set a tin dish containing ½ lb. of sulphur on floor of attic, and drop a red-hot coal into the dish. Close door and paste strips of paper to stop air getting in, just as when disinfecting a room after infectious disease. Next morning the nest may—if the job is properly done—be removed for preparing for show-bench.

[1555.] *Air-bubbles in Extracted Honey.*—In bottling "run" honey I find it full of small air-bubbles, which take some time to work to the surface, where they cause a froth to form on the top of honey. 1. Is this the same as that got by means of the honey extractor? I exhibited honey last week in a class for "run or extracted," and I noticed that which took the prize was quite solid; not a sign of a bubble to be seen. 2. Is it usual to label honey for show? The honey I speak of was labelled and stamped with the producer's name. I thought this was not allowed. 3. Does excluder zinc prevent bees carrying pollen into supers? I have been told that, when supering, if a quilt is put on brood-chamber instead of excluder, just turning up an inch all round the outside to allow the bees to come up, that it is equally as effective as excluder, as the queen will never go to outside of hive to come up. 4. Is this so?—J. M., *Pontypool, September* 15.

REPLY.—1. There should be no appreciable difference between "run" and what you term "extracted" honey. The honey is extracted, whether by means of the machine which goes by the name "honey extractor" or in any other way, and one would think the latter more likely to cause air-bubbles than the "run" method of removal. We fancy yours has been *forced* through some straining material, and that has caused the air-bubbles. But any froth seen on surface of jars intended for exhibition should be removed. 2. No, decidedly not. Anything which indicates ownership, especially by name, should disqualify an exhibit. 3. Almost entirely. 4. It sometimes answers the purpose, but not always.

[1556.] *Suspected Queenlessness.*—At end of July I divided a strong stock of bees occupying one compartment of a "Wells" hive by placing half the brood and bees on other side of perforated division. All went on well, queen-cells were started and sealed up in the queenless division. I did not examine again until September 20, and then found the bees very much decreased in numbers, not a vestige of brood, and no drones in hive; but I did not attempt to look for the queen, as I can never find queens. The general behaviour of the bees at the entrance and in flight I should say is sluggish. Will you tell me, please, in B. B. JOURNAL if the absence of brood or any other symptom points to queenlessness. My other hives have two or three frames of brood each.—A BEE-KEEPER, *Ipswich, September* 23.

REPLY.—The absence of brood shows that either the young queen has been lost or has failed to mate. In the former case, remove dummy and join the stock up again. In latter case, the unmated queen must be removed (there being now no chance of mating), and stock treated as above indicated. If a frame of young brood is inserted in doubtful stock the condition of matters as to queenlessness will soon show itself.

[1557.] *Feeding Driven Bees in Autumn.*—On the 15th inst. I drove four stocks of bees from straw hives, which were given me. I knew nothing about bees before, this being my first attempt at bee-keeping. I also had two frame-hives given me as a present. I well scrubbed them with strong soda and boiling water, and painted them outside. They had not been used for the past ten years, but from what I can gather, foul brood was in them when last in use. 1. Can I do anything further to them? I put two lots of bees in each. I commenced feeding on 5 lb. loaf-sugar, with one quart of water, a tablespoonful of vinegar, and pinch of salt. After giving to the bees it formed hard sugar over the mouth of jar, so the bees could not get it all out. I have since used Demerara sugar, which I find they take all down. 2. They have taken 15 lb. How much should I give? 3. Is Demerara as good as loaf-sugar? I have begun to take the BEE JOURNAL this week.—E. TOMS, *September* 26.

REPLY.—1. Time is certainly on your side, and if the hives have been thoroughly well cleaned with the materials stated, we think they should be safe. But it is known that the

spores of foul brood retain their vitality for several years. It is to be hoped that all traces of the old combs (including frames) have been destroyed. 2. If the driven bees have to build new combs from the food given, they will need about 20 lb. of sugar for each lot. 3. If the "Demerara" used is the moist or raw sugar, it is entirely unsuitable for autumn bee-food. In a word, if we may take it that you are quite unversed in bee-management, it is absolutely necessary to obtain a text-book which tells of all these things—and scores of others—without which knowledge it is impossible to succeed in bee-keeping on modern principles.

[1558.] *Foul Brood after Twelve Years.*—I forward you a frame of comb taken from one of my hives to-day. I have never seen a comb like it before in all the course of my twelve years' experience, and from what I have read in your valuable journal I have come to the conclusion that I have got the foul brood in my apiary, which consists of about thirty hives. I have only found it in two hives, which are at one end of my apiary. Both the hives in question are very strong with bees, which rather puzzles me. I send you the worst frame in section of the hives. I am, of course, very anxious to know whether it is foul brood or not, and would be very much obliged for any advice that you might offer. — A TROUBLED BEE-KEEPER, *September* 24.

REPLY.—An examination of comb shows that foul-brood is breaking out in the colony from whence it was taken; and in view of twenty-eight healthy stocks of bees in the apiary, we should only advise saving the bees of the two affected hives. We do this because both are reported as "very strong in bees." We should select from among the other hives eight or ten brood-combs, as free from food as may be. Then, in the early evening of the first convenient day, when the bees are not flying, shake the bees from combs of both affected hives and let them run into an old straw skep. Keep them there for, say, thirty hours, and meantime set the selected combs into a clean hive; and, when all is ready, shake bees out in front and let them run in. Feed with a sufficient quantity of medicated syrup to make safe for winter. Burn the affected combs.

CUTTIN' A BEE TREE.

A CALIFORNIAN BEE STORY.

(*Concluded from page* 390.)

I secured my armour and prepared for action. I had only a small piece of mosquito bar which I fastened to my straw hat, letting it festoon my face. I drew on a hickory overshirt (wearing it like a bushwhacker, outside of my pants), then I tied a string around my ankles, one around my waist, and a handkerchief around my neck; finally I drew over my hands two pairs of cotton socks for gauntlets, and I was ready.

I approached the bees gradually. I got in among them and they couldn't do a thing to me. But didn't they try it though! I never was the centre of so much attention in my life, and I had no notion till then how much racket a few million bees can make. I peered into their works in the tree, now spread wide open. I never saw such a combination of honeycomb and mad bees.

I then got my hive, buckets, and pans, and went to work. Just about this time the sun came out from behind a tree and shone as though it had concentrated all its rays to focus on my operations. The bees got madder and crazier. One of the dogs had come back as near as he dared, and as luck would have it he flushed a skunk so close by that the animal pervaded all the atmosphere that was not full of bees. I got entangled in grape-vines and thought I could hear a rattlesnake, but the bees made such a whiz I could only guess at it. I grabbed all the honeycomb I could see through my veil, put it in the buckets and had everything full and more left. My gauntlets became loose and a few bees got into them, my veil leaked and let in a few, then a small contingent got into my hair!

Now did those bees behave like those Hermit tells about? Had the "little warriors of a moment ago" found they were to be robbed, and quit in despair to fill up on honey? Not a bit of it.

My hat felt as if full of red-hot barbed wire, and my hands as though they were full of red-hot fish hooks. If any one had come along then he could have seen it was my busy day, and he would have gone right away about his business somewhere else.

As soon as I could get out of the grape-vines, rocks, and the brush, I made for the creek, and away from where I seemed to be, as fast as I imagined a man with only two legs to work with could progress.

Talk about things with strings on! All the things I had tied on to keep the bees out were now keeping them in! Some of the bees I took with me wanted to get out, but they couldn't; so they stayed with me—stuck right to me. When I did get out of my extra duds, every bee was simply stupefied with victory, and sated with revenge. I sat down to recover my senses, and incidentally to pick the stingers out of myself that the bees seemed to have had no further use for. My dog seemed to have thought I was insane, and he even risked the bees to get around somewhere where I could fall over him in my mad career. Now he condoled with me, and I asked him if he had ever made one of such a pair of fools before in his life? He looked sceptical, and was non-committal; but between his experience with the bees and his traffic with the skunk he seemed to feel humiliation too.

I left for home with half a barrel of honey-comb, 2 or 3 lbs. of honey, a swelled head, a smarting anatomy, lots of experience, and a fond hope to get a chance at Hermit and the bee editor of *Forest and Stream* some day.

The foregoing account is merely the record of the first day's operations with bee tree No. 1. I never quit an enterprise that I undertake so long as I think the rest is easy, and that I have had the worst of it. I went back to those bees. I spent the next two days with them, and dreamed of them the intervening nights. There are about eight gallons of them, and at this writing I have them on my premises. I brought them down in two loads, corked up in a keg and a box. Whether I have one, two, or three swarms I don't yet know. I poured them out and drove them into my new gums with a switch. I divided them as near as I could.

To-day they all seemed to be having a time of it themselves to get straightened out and re-organised. They get out on the piazza to their new homes and march from one hive to the other. They stand on their heads, kick at the sky, and buzz and countermarch. I don't know what their plans are, but I do know they haven't quit fighting back. They have not yet missed a reasonable chance to sting me. It is said that when they sting they die; if this is true, and they keep at me, they will all commit suicide. There are only a few million of 'em left. Before I cut my next bee tree I will wait until I can wear an ordinary shaped hat. Meantime I will think up some on the subject. RANSACKER.

P.S.—I suppose there are apiarians who think they know all about bees, and have written books. To the novice I offer my advice free, viz.: don't try to read up on bees. You would never get it all. Either cut a bee tree and hive a swarm or two, or be content with patent honey made out of sorghum and nitro-glycerine. R.

Bee Shows to Come.

October 17, at the Town Hall, Rutherglen, N.B. — Second Annual Show of Honey, Appliances, Fruit, Vegetables, &c. For schedules, apply to John Stevenson, secretary, Maryton Braes, Larkhall, N.B.

October 20, 21, 22, and 23, at the Royal Agricultural Hall, Islington, London, N. Twenty-first Annual Show of the British Dairy Farmers' Association. Eight classes for honey, with liberal prize money, and a class for interesting and instructive exhibits connected with bee culture. Entries closed.

November 12.—In connection with Ludlow Fruit and Chrysanthemum Society's Exhibition. Two open classes. Entry fee, 1s. each class. Schedules from J. Palmer, 17, Brand-lane, Ludlow. Entries close November 5.

November 18 and 19, at Newcastle-on-Tyne. —Northumberland and Durham B.K.A., in connection with the Horticultural Society's Chrysanthemum Show at the Town Hall. Three open classes. Entry fee, 1s. each class. Schedules from J. N. Kidd, 29, Windermere-street, Gateshead. Entries close November 13.

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

NABOB (Chorley).—*Moving Bees.*—With no particulars as to whether the bees are stocks in frame-hives, or skeps, or "driven bees" only, it is impossible for us to advise our correspondent as to how he is to get them from Warwickshire to Lancashire. They should, however, be prepared for the journey by some one who understands how to pack bees for railway transit, and go by passenger train labelled "Live bees with care."

BEE-KEEPER (Midlothian).—Comb very plainly shows signs of being plundered of its honey, but, beyond pollen, there is nothing worse in cells—no trace of disease appearing in comb sent.

J. STUBBS (Cheshire).—Honey received is very fair in colour, excellent in consistency, but only moderate in flavour and poor in aroma.

WM. JEFFREY (Atherstone).—The hon. sec. of the Warwickshire B.K.A. is Mr. J. N. Bower, Knowle.

J. B. (Sittingbourne).—*Recipes for Honey-sweets.*—Our correspondent asks if any of our readers will oblige him with recipes for making sweets, in which the major portion of the material used is honey. Perhaps some one will comply with the request.—[EDS.]

JAS. SCOTTER (Upton).—*Saving Honey of '96 for next Year's Show.*—It is only supposed that extracted honey will be held over in any but very small quantities to compete in the Trophy class at the "Royal" Show in June next. A few extra nice sections will, no doubt, be kept by those possessing such, but the bulk will be extracted honey, and any that wins prizes will be readily saleable at an enhanced price.

Editorial, Notices, &c.

USEFUL HINTS.

WEATHER. — September closed as it opened, and the whole month may be said to have been an exceptionally wet and generally unfavourable one for bees. In an authoritative summary of the weather during September the *Standard* says:—

"The month of September will be remembered for its heavy and continuous rains, and in many parts of the British Islands it ranks in the fore-front as a wet month, more rain having fallen than in any month of recent years. In London the rain for the month amounts to 5·31 in., according to the station reporting to the Meteorological Office, while in some of the London suburbs the rainfall is even larger. This total is about two and a-half times the average for September, and the Greenwich returns do not show so large a fall as 5 in. in September since 1875, while, counting the present year, it has only occurred five times in the corresponding month since the year 1841. So large an amount of rain has not occurred in any month since July, 1888. The total summer rain for the six months from April to September is 11·10 in. at Greenwich, and of this upwards of 5 in., or nearly one-half, fell in the present month. In the corresponding period last year the total rainfall was only 8·44 in. The average summer fall for the last fifty years at Greenwich is 12·7 in. The heavy rainfall in September was general in nearly all parts of the British Islands, Shields being the only telegraphic reporting station where the total for the month was deficient, the aggregate fall being 2·09 in., while the average is 2·30 in. At Parsonstown, in Ireland, and at Cambridge, the fall was double the average; at Oxford it was considerably more than double, and at Hurst Castle and Jersey it was about two and a half times the average. There is still a deficiency of rain since the commencement of the year in most parts of England, but the heavy rains of September have greatly reduced this deficiency."

Judged by its first week, October bids fair to be very cold and stormy. We already hear of hills in several northern counties, as well as those of the Snowdon ranges, being covered with snow, while on the 5th, quite close to London, a severe hailstorm, accompanied by peals of thunder, was experienced. The low temperature of the last few days is already affecting bees, so far as causing them to take down syrup-food more slowly than is usual at this season. Dilatory bee-keepers will therefore need to "hustle"—as our American friends say—and by using a "cosy" of some sort on all feeders, so manage to keep the food—given warm, of course—at such a temperature as will help to keep the bees lively and active while feeding. In this way a rapid-feeder, of the type in which the bees are admitted to narrow troughs holding the syrup, may become quite a warm feeding-chamber, very grateful and attractive to the bees in cold weather, and not a little helpful in getting the food sealed over after it is carried into the combs below.

On the other hand, neglect of prompt attention to feeding-up at once, and the observance of such little "helps" as are mentioned above will tell adversely—may be disastrously — on badly provided stocks where much feeding has still to be done before the bees can be counted as safe for winter.

PACKING HIVES FOR WINTER. — While on the subject of safe wintering, a hint may be given as to combs found during autumn examinations, with "just a cell or two"—as correspondents put it—containing "what looks like foul brood." And they innocently ask, is it worth while removing and destroying good combs for so small a matter? Just as some ask if full combs of honey from such stocks will not do for giving to colonies needing stores. It will hardly be believed that the real nature of foul brood is not fully understood by all who read our pages, but it is so. Anyway, we strongly urge that no comb be left in a hive for winter in which any suspicious cells are seen. It is little less than fatuitous carelessness to leave a single cell of what may be nothing less than a nest of disease-producing germs, in a hive all winter, to be perhaps forgotten in spring. Moreover, any hives from which such combs are now removed should be carefully watched in April and May next to

see if sealed brood is hatching out all right. It is in slight outbreaks that remedies are useful if applied in time, because, as we have so often repeated in these columns, for badly affected stocks the only safe treatment in ordinary hands is destruction by burning.

BEE-KEEPERS AND THE DAIRY SHOW.—The prospect of a good gathering of bee-keepers at the Agricultural Hall during the Show week is very encouraging, and—in view of meeting the convenience of those living some distance from London who purpose attending on the 22nd, in order to be present at the Conversazione of the B.B.K.A. on the evening of that day—it is expected that the hour at which the proceedings begin will be fixed earlier than usual, so that those present may catch trains for home in good time.

The Council of the B.B.K.A. will, we need hardly say, extend a hearty welcome to all who can spend any portion of the time between 5 and 8.30 p.m. at the offices of the S.P.C.A., 105, Jermyn-street, W., where the meeting will be held. 'Busses pass the Agricultural Hall every few minutes, and friends at the bee-department of the Show will give every information as to being set down within three minutes' walk of the place of meeting.

We also remind those attending the Show that the bee-department will be located, not in the gallery as heretofore, but in a new annexe leading from the ground-floor of the hall.

ENGLISH *v.* FOREIGN HONEY.—The letter of a correspondent (2638, p. 404) will throw some light on the way in which the British bee-keeper and the consumer of what the latter supposes to be British honey are defrauded by dishonest or unscrupulous traders. The question of meeting the difficulty, as regards protecting the native product, is a wide one, and will, no doubt, receive full and careful attention on the part of the B.B.K.A. and its affiliated County Associations. In the meantime we can but impress on our readers, who are members of County Associations, the importance of using the county label on their honey. This, at least, is one way of securing its identity as British honey, and if consumers are educated into the use of the label, they will be disposed to prefer such honey from the tradesmen whose jars are furnished with the British trade mark in the shape of the county label.

RAILWAY RATES OF CARRIAGE.—Reverting to our editorial of last week on this subject, we are asked to state that from October 1 the Midland and Great Northern Railways will adopt the following scale of rates for conveyance of small farm-produce, including honey, by passenger-train from the stations on the joint lines to London, to include delivery within the usual limits:—For any weight up to 20 lb., 4d., and an additional charge of 1d. for every 5 lb. over that weight up to 60 lb. For the convenience of the public, and in order to facilitate the working of the scheme, the companies above named are arranging to supply boxes at their stations, at a very small charge, for sending goods in.

We need add nothing to our observations of last week with regard to the advantages offered to bee-keepers by the above arrangement.

DEATH OF THE REV. ROBERT SANDERS.

We have received the following from our esteemed friend and correspondent Mr. McConnel, which explains itself:—

"DEAR SIRS,—I send you a cutting from the Annan *Observer* of October 2. I have no doubt Mr. Cowan will remember the visit he paid to Mr. Sanders some years ago.

I have had the privilege of being present with Mr. Sanders at more than one horticultural show in Dumfriesshire, and I can quite confirm what is said in the *Observer* regarding our deceased friend, and the careful, honest, and trustworthy decisions which he always gave.—Yours faithfully,

"FREDERIC MCCONNEL."

Slightly abridged, the cutting enclosed reads as follows:—

"We regret to announce that the Rev. Robert Sanders, the venerable minister of Tundergarth, died suddenly at Tundergarth Manse on Tuesday the 29th. For some years Mr. Sanders had been in indifferent health. On Tuesday evening he retired early to rest, but rising about ten o'clock was walking across the floor of his bedroom and chatting to Mrs. Sanders, when he suddenly fell on the floor and expired. Mr. Sanders, a son of the late Mr. Robert Sanders, who farmed Westwood, Tundergarth, was in his seventy-second year and the forty-sixth of his ministry. Having undergone the customary arts and divinity course at Edinburgh, Mr. Sanders was licensed by the Presbytery of Lochmaben, of which he

has been the father for a considerable period. Mr. Sanders was for some time assistant to the late Mr. Little, minister of Tundergarth. In 1850 the deceased was presented to the church and parish of Tundergarth. In all that concerned the well-being of the parish, Mr. Sanders evinced the liveliest interest, putting himself to much trouble and expending a great deal of care upon anything that was likely to be of benefit to the parishioners. Like many another scholar, Mr. Sanders found in the tending of bees a pleasant recreation. No one could have been more enthusiastic in that pursuit, and few were so thoroughly conversant with all that pertains to the apiary. In this connection the services of the deceased were often in request and readily given as a judge at shows in the district, where his careful decisions were accepted with the confidence begotten of well-grounded belief in his impartiality. Mr. Sanders is survived by Mrs. Sanders, who has ever encouraged her husband in every good work, and for whom much sympathy is expressed."

HONEY SHOW AT BIRKENHEAD.

The Wirral and Birkenhead Agricultural Society's annual show was held at Birkenhead on the 2nd and 3rd ult. Unfortunately the weather proved most unpropitious, an incessant downpour of rain prevailing during the far greater part of both days. Underfoot it was not so bad as in previous years on wet days, owing to the fact that the Society has at great expense put down a layer of cinders; but for which the ground would have been a quagmire.

Notwithstanding the bad season in these parts, the honey classes were well filled, the only exception being the district class for sections, which produced but three entries. The first prize lot was very good indeed, while all were of fair merit.

The classes for extracted honey, both district and open, were very well filled indeed, and some fine samples staged; in the district class, the competition for "places" being keen.

The bee-tent of the L. and C. B.K.A. was on the ground, but the intended demonstrations—which should have been given each day—were sadly interfered with by the adverse weather. During a short bright interval on the first day it was possible to carry out the proceedings, but on the second day the downpour was so incessant that operations had to be transferred under cover, and a lecture was given in the honey shed on the bar-frame hive, &c.

For the past few years this Society has not had classes for hives, appliances, &c., confining the bee-department to honey alone; this year, however, a class for "the best and most complete frame-hive" was introduced, which, happily, was well filled, there being nine entries to compete for the three prizes of £2, £1, and 10s. offered. Mr. Chas. Redshaw, of South Wigston, was to the front, taking first and second prizes with splendid specimens of workmanship and ingenuity; the third prize falling to Messrs. Thos. Lanaway & Sons, of Redhill, who also got a v.h.c. for two very good hives. Altogether, the honey department was a success, and, had it not been for the bad weather, would have been a most enjoyable show.

Dr. Benj. E. Jones, of Freckleton, near Preston, judged in this department, and also was lecturer on the occasion. The following are the awards:—

Twelve 1-lb. Sections (Open).—1st and 2nd, John Stone, Cubley, Derby, and Rev. T. J. Evans, Hargrave, Cheshire, equal; 3rd, W. H. Woods, Hemingford Grey, St. Ives, Hunts; 4th, Wm. Woodley, Newbury, Berks.

Twelve 1-lb. Jars Extracted Honey (Open).—1st, W. H. Woods; 2nd, J. Sopp, Crowmarsh; 3rd, H. O. Smith, Louth, Lincs.; 4th, Wm. Woodley; v.h.c, H. W. Seymour, Henley-on-Thames, and Owen Roberts, Tarporley; h.c., Herbert E. M. Seymour.

Twelve 1-lb. Sections (District).—1st, Rev. T. J. Evans; 2nd, R. Dodd, Tarporley; 3rd, Harwood Banner, Ashfield Hall, Neston, Cheshire.

Twelve 1-lb. Jars Extracted Honey (District).—1st, Owen Roberts; 2nd, Malcolm Taylor, Barnston; 3rd, Samuel Woodward, Kingsley, Cheshire; 4th, Wm. Forrester, Huyton, Liverpool; v.h.c., Alfred Thomas Ince, Cheshire, and Wm. Crellin, Barnston; h.c., Rd. T. Tidswell, Heswall.

Best and Most Complete Frame-Hive.—1st, Chas. Redshaw, South Wigston, near Leicester; 2nd, Chas. Redshaw; 3rd, Thos. Lanaway & Son, Redhill, Surrey; v.h.c., Thos. Lanaway & Son; h.c., Wm. Corkhill, Edgehill, Liverpool.

The stewards of the honey department were:—First day, Rev. J. F. Buckler, Bidston, and Mr. J. A. Bally, Oxton; second day, Mr. W. H. Forde, Claughton, and Mr. E. Kinner, Parkgate, and all were most untiring in their efforts to give information and help.—(*Communicated.*)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

HARVEST HOME.

[2637.] October seems late for gathering in the harvest of honey, and no doubt Messrs. Woodley and Walton will shake their grey

locks (or the place where the grey locks ought to be) at such words. Old hands say: "You should extract honey while it is warm from the hive. You should finish all feeding in September. You should have all your hives nicely painted, roofs waterproof, quilts dry — all your bee-gear washed and dusted and scraped and laid away in alphabetical order in the spare room." I wish I knew some spell or had a magic wand whereby I might change myself occasionally into, say, a bee, and take a cheap trip round by Honey-cott to the "World's End." Think I should not find—at any rate, just now—some little drops of naughty water oozing through those wooden roofs; some baby bees sucking nectar from tin feeders in lieu of nature's fount; or, maybe, a batch of pilgrim bees going round by Jerusalem to get to Jericho, just for the want of a pop-hole? However prompt and orderly other bee-keepers no doubt are, I am myself guilty of much procrastination. The enthusiasm which, once upon a time, prompted me to have almost daily encounters (preceded by fire and smoke—literally *fire*—for in those days I knew nothing of smokers and frames, but used a rolled-up piece of corduroy) with my own troops, has now subsided, and the bees and I in consequence now live more contentedly together. I am satisfied now if they pay me, as a tax, three-fourths of their earnings, whereas in the old days I required them to hand over all their plunder to their uttermost cell on the middle frame, and I gave them back in exchange for their English gold a few crumpled American "greenbacks." At any rate, if the sugar given them was not green-backed, it certainly had a green hue when boiled, caused —so the grocer said—by being wrapped up in green paper, but I (not being so green now) imagine it was more likely made from cabbages by some artful chemist, than the delicious product of the sugar cane. Oh, the labour of feeding a score hives of bees, 20 lb. to each, half a pint to each, each night! The syrup boiling over the newly black-leaded grate, the angry servant, the irate mater, the grocer's bill, the angry, fighting, chaotic apiary! Oh! (worse than all) the extracting from brood frames in hot August days in the gloaming, when the bees almost took the honey away again as fast as one extracted it, or darkness would come on, and the bees *would* swarm up the roofs and over the frame ends and hive sides, so that you had to put your fingers — sticky, propolised fingers — down amongst their warm, palpitating, sting protruding bodies—bodies that would somehow get in between and under frame ends, and had a natural instinct in finding Icknield streets leading straight into one's hair and up one's trousered leg!

I do not know if the old fighting days were not the best—we did see life—and if we suffered much, our return to normal size was the more enjoyable through knowing what it is to be of an abnormal corpulency about the eye. To appreciate the sunshine, we must bear the rainy days. The collection of my seventy-fifth (not tithe) part, the tax I have levied on my little people, is now attended with little risk. The first week in August, while the bees are still satiated with honey and the memory of July days, whilst they are still girls and have not yet become touchy old maids, I approach their hive and take off their roof. This astonishes them a little. Then I lift off the upper storeys, the front bedroom, the back bedroom, the drones'-room, and the attics over, at one operation. The bees are in the dining-room counting out the honey and the queen is in the parlour eating (bee) bread and honey; and when the ceiling flies away, the queen shouts out "good lawk-a-day!" And before the kings or commoners can find their voices or spears, lo! there is a new ceiling in position, decorated with perforated zinc.

And their granaries are now transported to my warm kitchen, piled up storeys high, deep frames, shallow frames, and section cases, and sometime, when I feel as though half a day's extra hard labour will do me good, I take a turn at the handle of the extractor, and my sister slices off the waxen sealing of the combs, and although my enthusiasm is gone—dead as a door-nail—still I like to hear the honey-drops patter like rain against the tin sides of the extractor, and still I love to feel the bottom of the cage catching in the honey, showing it to be 6 in. deep. Better than all, it is my delight to collect the gymnasium-attending members of the family, and with a mighty effort heave the extractor on to a table, when the treacle—bah! I mean the honey-tap, or better, honey-gate, is opened, and out flows the leaping golden harvest of the flowers.—LORDSWOOD.

ENGLISH *v.* FOREIGN HONEY.

SOME ITEMS OF MY "INQUIRING" EXPERIENCES.

[2638.] I beg to send you a few enumerated items giving results of inquiries made by myself on a subject which must be of some interest to B.J. readers:—

1. On inquiring for *English* honey at a large wholesale and retail London shop the other day I was referred to the proprietor in the office. He told me that he had no English honey, but that he sold about three tons of foreign honey a year, for which he gave 2½d. a lb. He stated that many even of the chemists, in addition to such people as hawkers, sold foreign honey as English. The latter would buy from him as much as one or two cwt. at a time.

2. At another shop, on asking for English honey, I was shown some metal-capped jars with the words "Pure Honey" and the name and address of an appliance dealer from whom it was bought on the labels. "This," said the

manager, "was ordered by me from a traveller who said that he came from ——shire, and, of course, I concluded that it was English honey as he said nothing to the contrary, and especially as he had informed me that his employer kept bees." The honey was sent but he found out that it was not English honey at all. When the traveller came again to him he charged him with selling him foreign honey for English. Of course, the traveller could not deny it, but he made a lame excuse. This appliance dealer, who takes prizes at honey shows, knows perfectly well what his traveller does, but renders *himself* free from attack as he only puts "pure" honey on the labels and not "English" honey.

3. At another shop the same history was repeated, only in this case the traveller represented a ——— shire dealer. The honey was labelled "White Flower Honey" and "Heather Honey," which was palpably not English, and English was not on the labels. Of this class of foreign honey, about four tons were offered for sale to an honest dealer in English honey by a ———shire bee-keeper, who is also, it appears, an importer of foreign honey. In this case the written offer, which I have seen, left you to suppose that it was "English Honey." "White Clover Honey" were the words used. On asking the bee-keeper for a guarantee that it was "English," the truth came out that it was "foreign honey." This, of course, ended the negotiations.

4. Perhaps the worst case is that of a London chemist, who told me that before he went into business on his own account he had been engaged in three wholesale drug houses, and in every one of them foreign honey was sent to their retail customers instead of and as English, if English honey happened to be high in price, or if they had no English honey in stock.

A man may buy or sell foreign honey if he likes, but he may not sell it as English.

Should not the county in which English honey is gathered, or the word "English," with the name of the producer, be put on each bottle in every case?—A Lover of Good Honey.

[We have referred to this matter on page 402, and may again later on.—Eds.]

DESTRUCTION OF QUEEN CELLS.

[2639.] In reference to letter from Mr. John Goodall (2631, page 393, B.J., October 1), I hope to see replies and hints that will help us to avoid the unfortunate slaughter of queens, and look forward with interest to the next issue of your very useful journal.

In the meantime I may say there have been numerous cases of a like nature under my notice this peculiar season, *i.e.*, as far as regards the non-swarming, so we may mutually sympathise.

If a good crop of honey only was wished for, would not a rack of sections or shallow frames on top of skep have obtained what was desired?

Was not Mr. Goodall somewhat hasty in coming to the conclusion (in the fifth paragraph) that his artificial swarm was queenless because he saw some cells destroyed—unless each queen could be accounted for?

The fact that one cell existed on the *seventeenth* day seems to indicate chilled brood; the bees themselves will then sometimes in their anxiety rip open the queen-cells. On the other hand the first queen that hatched would commence to destroy the others, and was, I should say, disturbed before completing the massacre.

So then, I should argue that there *was* a queen raised which, if she had been allowed time, might have mated, but in adding the driven lot it was doubtless the right thing even if it meant the killing of another queen.

In endeavouring to raise queens it is advisable to examine frames not later than the thirteenth day (after laying of egg), putting a fair-sized pipe-cage protector over, say, a couple of the best queen-cells; these could be examined on the fifteenth and sixteenth days and queens taken care of when hatched. In this way there should be at least three queens to choose from. Another way would be to prepare nuclei and put in the queen-cell on the thirteenth or fourteenth day, and so have several chances instead of one.

Mr. Goodall's "why a queenless colony should commit wilful suicide in such a deliberate manner" is not easy to answer. In fact, "suicide" seems to me not quite an appropriate term to use in this case. I have frequently known colonies to be guilty of regicide, if that word may be used in a feminine sense (to their detriment and my sorrow), in the case both of young queens and introduced laying ones, which, but for further attention, would doubtless end in suicide.

In most of these vagaries, however, of my busy little friends, I must admit the probability of my own fault or ignorance in some way or other, rather than attribute any blame to the bees.—Paul B. Wood, *Dryburn, Heeley, Sheffield*, October 5.

BEES IN COUNTY KILKENNY.

[2640.] We had an extraordinarily mild winter here in '95-6, so mild that it would have been quite safe and easy to feed bees with syrup all through from November to March; indeed, I knew of some two or three stocks that had been fed with syrup made from ordinary sugar all though the winter, and they did very well. Notwithstanding this, however, and, strange to say, there were more stocks lost than during some of the severest winters in my recollection. The bees were constantly moving about either in their hives or on the wing, and as a result their stores rapidly disappeared, and stocks died of starvation.

The spring flowers here far surpassed anything in my experience, the show of rhodo-

dendron bloom in early March being a sight the like of which has never been witnessed by the oldest bee-keeper in the district. Horse-chestnut, sycamore, hawthorn, and fruit trees of all descriptions also yielded well, and kept the bees working until the white clover came in. The latter, however, did not yield in proportion to the earlier bloom on account of the dry weather. All kinds of bee-forage was out fully a month earlier than usual.

I had thirteen stocks (spring count) all fed up heavy early in the autumn of '95, and left severely alone till April, '96. On my spring examination I found that foul brood had again broken out, two stocks being affected. One I speedily despatched; the other is now cured by the "plan" of last year. The majority of my stocks were strong and forward in spring, and were taking advantage of the early season. I supered some by April 23, and on May 10 all except two had supers on. I use eleven standard frames in brood-chambers, six of the strongest stocks being supered with ten standard frames of built-out combs; the remainder had two racks of sections given to each. I removed a lot of finished sections on May 27, just about the time when in ordinary seasons I would be thinking of supering.

At close of the season I had secured 200 well-filled sections and 300 lb. of extracted honey, while every colony was left with more than sufficient natural stores for winter; in fact, I could have taken another 100 lb. of extracted honey from the brood chambers.

Extracting this season was a pleasure, seeing how rapidly the honey left the combs. To quote the words of my little daughter (aged six) while I was working: "Oh, pappy, it's teeming rain in the extractor."

I again got first prize at our local show, and all the honey I staged there (about sixty sections and 140 lb. of extracted) was sold on the ground.

I haven't had a single swarm for the last two seasons. I purchased, during the past season, two stocks in frame hives and one skep, and made up two stocks in frame-hives with driven bees (two fine lots for each), so I am going into winter with eighteen stocks, and hope for another good harvest in '97.

The new "Guide Book" is a great help to me; and I should like to say that every bee-keeper not having a copy would do well to procure one.—M. K., *Piltown, County Kilkenny.*

MOVING BEES FROM ROOF.

[2641.] Being asked by a shopkeeper if I would take a stock of bees from the roof of his shop window which had been located there for sixteen months, I agreed to go. On reaching the place I found the wall so full of cracks that it was quite a job to get them out; however, I succeeded in securing about 4 lb. of bees, but on putting them into my frame-hive along with the comb and brood I could not see the queen, and when I looked again three days later the bees had built seven queen-cells. In another week they had torn away all the cells but one. I did not examine again for about three weeks, and then found brood in all stages. Can you tell me how this queen should be fertilised, for though I have constantly watched for drones in the hive, I could not see a single one?—A Young Beginner, *Wroxall.*

[Queens do not always mate with drones from their own hive.—Eds.]

THE SEASON IN KELSO, N.B.

[2642.] The flower-honey season in the Kelso district has been an exceptionally good one, while a good many bee-keepers have been disappointed at the heather-yield.

Mr. Murray, of Charterhouse Farm, told me his average yield this season from five stocks was 80 lb. per hive, being about equally divided between flower and heather honey. I have myself taken close on 180 lb. of heather-honey from nine hives, which I consider good—in view of the wet season. Messrs. Brown & Wilson, Kelso, have brought home very heavy hives from the moors at Edlingham. Hives which have not been to the heather require food for the winter at once.—William Smith, *Stitchell, Kelso, N.B.*, October 2.

LECTURE ON BEE-KEEPING.

CHELMSFORD LITERARY INSTITUTION.

[2643.] At the Thirty-seventh Annual Fête of the above, held in the Recreation Ground on the 30th ult., the committee were able to announce a lecture and demonstration on "Bees and Bee-keeping," by Mr. W. Jones Anstey (B.B.K.A., first-class expert), who kindly gave his services for the purpose, and which proved one of the most attractive features of the fête.

The lecturer dealt with the subject in a very able manner, and fully described the different methods and operations to be carried on during the year. He also drew attention to the importance of the subject, as one to be studied in these days of agricultural depression, and stated that in many instances the cottager could and did pay his rent out of the profit obtained from his bees, and many more could do so also by the expenditure of a little time and trouble, and this without interfering with their ordinary work. He showed that it would bear favourable comparison with any other rural occupation, and at the same time enlarge their minds while helping to fill the pocket. It was, he said, less trouble, more cleanly, and requiring very little work, and yet yielded far more profit—when intelligently carried out—than keeping a pig or poultry.

He also drew special attention to the fact that to fruit-growers bee-keeping was an important matter, as without the bee-keeper

they would be in a sorry plight, seeing that wild bees were not now sufficiently numerous, and in consequence they had to depend on the bee-keeper for the fertilization of the fruit blossoms; bee associations therefore had a demand on their support. He was glad to find the Essex County Council were rendering help in this subject, and hoped to see all counties joining with bee associations in extending knowledge on the subject, as these were the proper bodies to deal with the matter, and at any rate that knew best the wants and requirements of bee-keepers. Of course he meant those which did efficient expert work. The lecturer made a special feature of wintering bees, dealing very clearly with the scientific aspect of the subject, and evidently evoking a great amount of interest, as a considerable time was occupied at the conclusion in answering numerous inquiries.

The attention drawn to the subject was displayed by the large crowd that flocked round the tent, notwitstanding the number of attractions taking place in the grounds, and the committee are to be congratulated on the success attending the novel departure.—F. TUNBRIDGE, *Chelmsford, October* 2.

WEATHER REPORT.

WESTBOURNE, SUSSEX, SEPTEMBER, 1896.

Rainfall, 8·34 in.	Sunless Days, 5.
Heaviest fall, 1·11 on 1st.	Below Average, 70·8 hours.
Rain fell on 26 days.	Mean Maximum, 59°.
Above average, 6·36 in.	Mean Minimum, 47·8°.
Maximum Temperature, 66° on 8th.	Mean Temperature, 53·4°.
Minimum Temperature, 35° on 21st.	Below average, 1·6°.
Minimum on Grass, 29° on 21st.	Maximum Barometer, 30·41° on 30th.
Sunshine, 108·1 hours.	Minimum Barometer, 28·63° on 25th.
Brightest Day, 20th, 10·5 hours.	

L. B. BIRKETT.

Queries and Replies.

[1559.] *Contracting Hives for Winter. Cleaning-up Wet Combs.*—1. The "Guide Book" says:—"All combs not covered by bees on both sides should be removed" (*i.e.*, before winter). I find these combs contain pollen and thick honey which cannot be extracted. What is to be done with these frames? 2. I extracted honey from shallow frames at beginning of August. About one month later I put some boxes of these frames on hive for bees to clean. Instead of cleaning them they simply capped some of the cells. The only thing I know of is to place the combs in an empty hive and let bees "rob" it. Why do they not clean the combs, or what is the remedy? Would they clean them better if the frames were returned at once after extracting?—G. I. A., *Hants, October* 3.

REPLY.—1. Combs found in the condition named would be best left in the hive, and others—with little or no honey or pollen in them—removed instead. Pollen-combs should always be left with the bees for preservation if desired, as, when kept indoors, the pollen becomes hard and useless to bees. If instructions in "Guide Book" (p. 157) are carefully read and followed, it is made quite clear how combs should be arranged for winter. 2. If boxes of wet combs for cleaning-up are kept cool, and brood-chambers warm and cosy, bees will clean up combs all right. At least, we have never had any difficulty in this way. They should, however, be returned at once for cleaning while the odour of honey is strong about them. To put them outside in an empty hive for cleaning is one inducement to start robbing, and this should always be avoided.

[1560.] *Suspected Queenlessness.*—Thanks for reply to my question (1556, p 398). Fortunately I had, on September 21, inserted a frame of hatching brood, intending ultimately to introduce a queen, and I soon observed increased activity of bees, as also increase in number, which latter I cannot explain. Upon reading your reply, I thought I would examine this frame of brood and I then found the sealed queen cell (explanation for alteration in behaviour of bees), which caused me surprise as I thought all the brood being sealed over was too far advanced for queen raising, so, picking the queen-cell off, I removed dummy and united the two stocks. 1. Have I done right? I removed three new combs not wanted, but filled with unsealed syrup, as I have been feeding lately, leaving nine frames covered with bees. 2. What is the best to do with the three new combs? Shall I return them just as they are in the spring, or extract the contents now, or give them to the bees to extract in the open?—A BEE-KEEPER, *Ipswich.*

REPLY:—1. Yes; under all the circumstances. 2. We should extract the syrup now, or else return the frames to the bees in the hive before packing for winter.

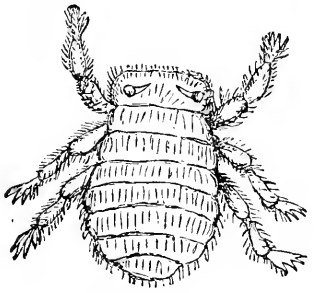
[1561.] *Medicating Bee-Food.*—On pages 159 and 163 of your valuable "Guide Book" the directions are ½ oz. to 10 lbs. sugar. Would it not be simpler to state quantities of naphthol beta solution for each lb. of sugar, or, perhaps, better still, by distributing naphthol beta in "solution," or advising the use of a "minim," or 1 oz. measuring glass? Of course, if infusing a little more or less of the foul brood preventive is of no consequence, it would not matter.—SAXON, *Llanberis, N. Wales, October* 1.

REPLY.—In preparing the instructions in "Guide Book" referred to, a common medicine bottle—such as is found in nearly every household, or can be got from any chemist for

a penny—was expressly used in order to simplify the matter, and employ materials easily obtainable. On the other hand, a "minim," or 1 oz. measure, would have to be purchased, and many would hardly understand its use. 10 lb. of sugar was taken as about the usual weight most readers would boil at one time, and those needing, say, 5 lb., could use half the quantity. We might have naphthol prepared for sending out in solution if there was a demand for it, or if it was preferred in that form by the bulk of those using it.

[1562.] *Parasites on Bees*.—I should feel it a favour if you will say if bees are, as a rule, infected with insect parasites? I this week purchased a queen (Italian), and on receiving the same, with attendants, I saw on the queen an insect, about the size of a pin-head, or a shade smaller, of a reddish-brown colour, with eight legs. I noticed that from the queen it went on a worker, then again to the queen and back again. I afterwards removed it. Kindly tell me if it is infectious, or is it a natural thing to be found on these bees?—N. A., *Cheshire*.

REPLY.—We rather think that closer inspection will show that the insect referred to has not eight but six legs, as in the "cut" below. If we are correct, it is the *Braula cœca*, or blind louse, a parasite found some-



BRAULA CŒCA.

times infesting bees in hives, especially the queen bee. It seldom appears in this country, and may nearly always be traced to bees imported from the south of Europe. In your case, where only one insect was seen, no trouble need have been taken for its removal, as it would soon have disappeared. In fact, the parasite soon dies out in this country, the climate, fortunately, not being favourable to its continued existence. If as many as half-a-dozen are found on a queen we should pick them off with a pair of tweezers.

[1563.] *Wintering Bees in Observatory Hive*.—I have an observatory hive (two frame) in my greenhouse; the number of bees, of course, is small, enough to fully cover one frame. Is it advisable to keep them in this hive all the winter, or transfer them to a hive out of doors?—NEW BEEMAN, *Ramsgate*.

REPLY.—Colonies of bees kept in observatory hives during a few weeks in summer, even when sufficiently numerous to cover six frames hung so as to be visible on both sides, require to be set in an ordinary hive for winter, with frames in normal position, allowing of combs being covered on both sides by bees. To attempt to winter a stock with only bees enough to cover one frame is entirely useless. The bees should be joined to another colony; this being the only means of preserving them alive.

[1564.] *Hive-making*.—Being about to construct a frame-hive I should be glad to have advice on a few points. 1. Which is better, to have the frames parallel to the entrance, or at right-angles to it? 2. Is there any advantage in having all four sides of the hive double? 3. Which is the best method of obtaining sufficient space beneath the frames for wintering? 4. Are metal runners (for the ends of the frames to rest upon) preferable to wooden ones bevelled to ⅛ inch? I may explain that I have never kept bees, but purpose doing so next spring, and hive-making suggests itself to my mind as being an interesting preliminary.—OSWALD SUNDERLAND, *Birmingham, October* 3.

REPLY.—In replying to the several queries above, we can only give our own personal preferences, without in any way prejudicing those of others who think differently from ourselves. 1. We prefer frames at right angles to entrance. 2. Yes. It protects the hive within from extreme heat and cold. 3. An "eke" or any other simple means of raising the hive up two or three inches from its floor-board in winter. 4. Yes; because the frames work more easily and there is less propolisation.

Echoes from the Hives.

Wellingboro', Northants, October 3.—In this district the past season has been a disappointing one, owing to the drought which continued right through the summer. Clover bloom was conspicuously absent. The lime trees bloomed profusely, but owing, I believe, to the want of rain, the bees did little work on them, 15 lb. to 20 lb. per hive seems about the average, in some cases not so much as that. Skeppists have come off very badly.—W. WINTERTON.

HONEY WITHOUT BEES.

The *Hereford Times* of the 26th ult. says:—The Glamorganshire county analyst has reported that recently 242 samples of articles of food, &c., have been submitted to him for analysis, of which 117 were samples of milk and of these samples only about 10 per cent

were found to be adulterated, but some of the latter were adulterated to a considerable extent. One sample of butter examined by him contained borax; of two samples of honey one was grossly adulterated. He believes that spurious honey is by no means uncommon, and such adulteration should be strongly condemned on medical grounds. One sample sold as beeswax consisted entirely of resin and petroleum. In his opinion the bee has very little to do with the production of the so-called honey and beeswax sold in the district. Brandy is sold 34½ deg., gin 37¾, rum 46¼, and whisky 43 deg. under proof. Of the total number of samples submitted to him, about 12 per cent. were adulterated. In the Pontypridd district honey was adulterated with 50 per cent. of dextrose, or starch sugar. Tea and coffee are generally unadulterated, but cocoa is adulterated with starch and sugar. The Local Government Committee has ordered proceedings to be taken by the police in the worst cases.—(*Communicated.*)

THE LATEST "SIDE" OF BEE-KEEPING.

"A few weeks ago," says *Answers*, "we published an account of the heavy profits that bee-keeping will yield. 'Erin-go-bragh,' however, points out in an interesting letter that bees have a dangerous side as well as a profitable one.

Bees are subject to fits of a very bad temper, and just now they are shockingly irritable. My friend 'Erin' cites the death of a horse and a donkey resulting from the stings of maddened bees in his own neighbourhood. The bees (he says) hide in old brick walls, and pounce out upon anything that puts their back up. A swarm, a week or two ago, chanced upon a brood of twenty-four valuable chickens. Possibly the chickens poked fun at the bees, after the manner of small boys, and irritated them into action. At any rate, the bees made for the brood, and killed twenty-one of them, leaving only three of the whole brood, as a warning to the farmyard in general.

People are positively afraid to go out of doors in 'Erin's' neighbourhood. He wants to know whether there is any way of quelling the fiery passions of bees? He thinks they should be tamed, and a licence imposed on bee-keepers."

BEE-KEEPING FOR WOMEN.

Women living upon a farm, or in the outskirts of a village, would find it a pleasure and a profit by keeping one or more colonies of bees, especially if they desire to have a few dollars all their own. Even though they may have their hands already full of other work, the little time that it takes to care for bees out of doors would give renewed strength and energy, so that the time taken for the bees would not be missed.

Bees and Sunshine.—In all cool and cloudy or rainy weather bees ought not to be disturbed, so that we are not obliged to be out of doors caring for bees in weather that would be injurious to our health. When the bees fly freely, and the wind is not blowing hard, any time during the warm part of the day is a good time to work with them. I prefer not before nine o'clock in the forenoon, or after four in the afternoon, as I find it a little difficult to see the interior of the hive with my bee-hat on, owing to the sun being low down in the horizon.

Bee-work is not Hard Work—at least, I do not find it nearly so tiresome as most out-of-door work, or even common housework; washing, ironing, sweeping, mopping, I find much more tiresome. I suppose it is something as we take it; if we *like* to do anything, it is more easily done. Of course, if we are already tired out before we go to work with the bees, we will grow more tired, and yet not so much more tired as if we had continued at work in the house, as it is a recreation to be out of doors in the glorious sunshine after being shut up in the house the most of the time perhaps for days. To feel and breathe the pure air, and hear the birds sing and the busy hum of the bee, and the eye to rest upon the green grass and trees and bright flowers and the beautiful blue sky, is restful even to the tired body, if not continued too long.

The fear of stings, I think, prevents many from not liking the work, and yet, when properly protected with a bee-hat or face-veil, and working only in the warm part of the day, and never when cloudy, rainy, or cold, and with the use of a good smoker, one need rarely be stung. If we immediately extract the sting by scraping it off (not pinching it, as that squeezes the poison-sac, and causes more poison to enter the flesh), and then pay no attention to the pain, work all the harder for a few minutes, most people will soon get so they do not care much if they are stung; but if we stop work and nurse the sting, and think about it, it seems almost unbearable; the mind being upon it makes it many times harder to bear.

Bees for young women would be a delightful employment, it seems to me. They could then remain at home, where they could be helpful to their parents, and at the same time be making something for themselves. They, nor any one, should not attempt to work with them without learning how. A dollar spent for a good book on bee-culture will teach any one a great deal. Possibly bees in the old box-hive, kept after the let-alone fashion, might be profitable, but I think it pays much better to read up and find out their needs, and get the gentle Italian bees, and give them a chance to do their best, by giving them a warm, movable frame hive where their wants can all be known and be supplied from time to time.

Women can be just as successful with bees

as men, and that is one kind of work they receive just as much pay for as do men. When we take our honey to market, a pound of honey that a woman gets from her bees brings just as much as her husband's or brother's honey.

Honey always brings a paying price, at least we have always thought so. When there has been a great deal of honey in one year, the price gets lower, but we can afford to sell lower because we have more to sell.

There is no article of food that looks more attractive upon our table than honey in the comb, and it is always ready for immediate use—we do not have to prepare it and cook it—it is always ready.—MRS. L. C. AXTELL, in *American Bee Journal.*

Bee Shows to Come.

October 17, at the Town Hall, Rutherglen, N.B. — Second Annual Show of Honey, Appliances, Fruit, Vegetables, &c. For schedules, apply to John Stevenson, secretary, Maryton Braes, Larkhall, N.B.

October 20, 21, 22, and 23, at the Royal Agricultural Hall, Islington, London, N. Twenty-first Annual Show of the British Dairy Farmers' Association. Eight classes for honey, with liberal prize money, and a class for interesting and instructive exhibits connected with bee culture. Entries closed.

November 12.—In connection with Ludlow Fruit and Chrysanthemum Society's Exhibition. Two open classes. Entry fee, 1s. each class. Schedules from J. Palmer, 17, Brand-lane, Ludlow. Entries close November 5.

November 18 and 19,at Newcastle-on-Tyne. —Northumberland and Durham B.K.A., in connection with the Horticultural Society's Chrysanthemum Show at the Town Hall. Three open classes. Entry fee, 1s. each class. Schedules from J. N. Kidd, 29, Windermere-street, Gateshead. Entries close November 13.

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

ALIQUIS (Birmingham). — *Candy-making.* — The two recipes referred to, though nearly similar, differ a little in details, and curiously enough some succeed in making suitable candy by using one recipe, while others do better by following the other. Both are therefore given, and candy-makers may choose between them. As to using candy, see pages 108, 109, 111, and 168 of "Guide Book."

K. A. T. (Surrey).—*Bees in Skep.*—1. If the skep is found to weigh not under 25 lb., after making an approximate allowance for weight of floor-board, there will be food enough for winter. If some means are taken to protect the skep from driving rain, the milk-pan will be quite sufficient for overhead covering. 2. There are no means by which a swarm can be directed to a given spot, but if the swarm is allowed to cluster and then hived in the barrel, they will remain there. 3. Bees on leaving the hive make straight for the best pasturage within reach, quite regardless of gardens offering less inducement in the way of honey-producing flowers.

NEMO (Oxon).—*Moving Skeps 300 Yards.*—1. We should let them remain till December before removal, since you have a choice of time. 2. Do not set skep above frames, as proposed, until the bees begin to need room in spring.

M. B. O. (Goodnestone).—Both samples are diseased—the dark sample badly so. If the other hive has combs in which there are no unsealed cells at all, you might winter the bees on them, and remove the others. Keep a sharp look out in spring when brood should be hatching out. Burn the whole contents of the hive from which the dark comb came.

ENTHUSIAST (Berwick-on-Tweed). — Queen sent is an adult hybrid Ligurian. She shows no sign of being "aged," and is probably in her first year, but we cannot say for certain.

A. H. PEACH (Oadby).—*Honey in Brood-nest.* —Allowing bees to overload the combs in brood-nest with honey is often disadvantageous to the welfare of the stock. In the breeding season there should be room for egg-laying in at least eight of the ten frames, and at times it is helpful to even extract the honey from both the outsides frames to give the queen more egg space. Bees will often remove honey from centre frames when queen is pressed for egg-room.

A SUSSEX BORDERER.—A bad case of foul brood.

F. BRIDGETT (Stoke-on-Trent). — *Salicylic Acid Solution.*—1. Salicylic acid, 1 oz.; soda borax, 1 oz.; water 4 pints. 2. Honey sent is a fairly good sample.

V. H. TIPPET.—The honey sent shows signs of slight fermentation, otherwise it is of very fair quality, and if it had been fully ripe before extracting, it should have sold readily at the price named, which is a very low one for good honey. We will inquire of a buyer of honey concerning it.

M. A. HOWES.—The person named is a perfectly respectable man, and we have no doubt will deal fairly with you if the letter and cash has reached him. Did you write in German?

Editorial, Notices, &c.

ENGLISH *V.* FOREIGN HONEY.

The question raised by the communication of a correspondent signing himself "A Lover of Good Honey," which appears in our last issue (2638, p. 404), is a wide and important one to bee-keepers generally. When we have it stated, as a positive matter of fact, that foreign honey is regularly and unblushingly placed on the market and sold as "English" by persons who know perfectly well that they are guilty of fraud by so doing, it becomes necessary that an effort should be made to prevent such proceedings. We need not stop to inquire into the quality of foreign honey obtainable at "2¼d. a pound," except to again express doubt as to the wisdom of the course advocated by some of our well-meaning friends, who consider it would be helpful to the craft to publish prices current for honey monthly in our pages. We think that to make familiar by frequent repetition prices obtained on the wholesale market for British or foreign honey would be productive of no good to bee-keepers in this country, because to know that honey could be bought for the figure quoted above would only tend to cause irritation among our home producers, while the prices occasionally got for good British honey would naturally tempt bee-men abroad to try and open a market here for their produce.

As showing that reasonable grounds exist for both these statements, we may mention, with regard to the first, the rather lively discussion in our pages a year or two ago, when a large consignment of cheap foreign honey was placed on the market here through our advertising columns, and, for the second, that we have within the last few days had an application—perfectly open and above board—to furnish to an American, who is a honey producer on a large scale, the names, &c., of buyers of honey in quantity for consumption in England.

Now we entertain none but the most cordial feelings of fraternal goodwill to our bee-keeping brethren on the other side of the Atlantic; nor would it be too much to say that we would do anything reasonable that lay in our power to do them a friendly turn. But we cannot overlook the fact that the primary and paramount object of this journal is to serve and promote the legitimate interests of British bee-keepers, and of the bee industry in this country. This being so—and in view of what is being done by way of foisting upon consumers honey from various parts of the world as "British" which is not British, for the purpose of realising a better price for the article—our first duty is to protect, so far as we can, our own people from so flagrant an injustice as the one complained of. We are no advocates of "protection," as the word is understood by politicians, but cannot quite forget that while the foreign article is received in this country free from anything by way of "charges," a British bee-keeper could not send a dozen pounds of his home-produced honey either for sale or as a sweet reminder of "home" to a friend dwelling in most places outside these islands without paying duty on the same before it would be allowed to pass in.

None will, we are sure, more readily admit the justice of simple logic, based on homely facts, such as have been stated above, than American bee-keepers themselves; bearing in mind that it is not sought to exclude honey coming from any and everywhere into this kingdom so long as it stands on its own merits. But it is a little too much to expect us to assist in pushing a neighbour's trade at the expense of one's own. It is also desirable to make plain to all the fact that the days when a shilling per lb. can be got for honey—British or foreign—are gone for ever; and that we are striving to promote an increase in the consumption of honey—as a table requisite among all classes—far and away more earnestly than to keep up high prices. A paying price for the native product is all that is sought for; but, apart from this, protection is expected against the injustice to consumers and to British honey-producers mentioned in the opening remarks of this article; and it is not too much to hope that means will ere long be found for protecting our own producers against such downright fraud as is exposed by the letter to which reference has been made.

The fact has also been brought to our notice that the written or printed opinion

of the Editors of this journal may be (or has been) improperly used—as a testimonial or warranty of quality, &c.—by persons selling foreign honey as English. We therefore shall in future decline to pass an opinion on samples of honey received here unless the place from whence the honey has been gathered is stated and vouched for.

THE DAIRY SHOW

AND THE CONVERSAZIONE OF THE B.B.K.A.

We have been asked why Thursday next, the 22nd inst., has been specially named as the most suitable day for bee-keepers coming up to town for the purpose of attending the show. There are several reasons for choosing that day, an important one being the fact that cheap day-excursions to London from the North and Midlands are nearly all arranged for Thursday in the show week. Another point is the being able to hold the usual Quarterly Conversazione of the B.B.K.A. during the early evening hours of the 22nd, so that visitors from a distance may get home the same night; and, lastly, although a popular or shilling day, the attendance is not so inconveniently large as on the final day, Friday being most favourable for dwellers in London, so far as evening visitors are concerned. We therefore think the date selected is by far the most suitable one of the four days during which the show remains open.

We would also remind intending visitors to the Conversazione that any objects of interest to bee-keepers which may be sent to Jermyn-street will add to the pleasure of the meeting.

COUNTY BEE-ASSOCIATIONS.

PROPOSED JOINT ASSOCIATION FOR KENT AND SURREY.

In the monthly journal of the Kent Bee-keepers' Association for October the following communication appears, addressed to members, on the subject of extending operations into Sussex:—

"The question has been recently brought before a considerable number of Sussex bee-keepers, who have written expressing their unanimous opinion that, short of possessing an independent Association for their county (of which there does not seem to be the least probability), it is very desirable that Sussex should join hands with Kent, and share in the benefits of one Association. The valuable experience already gained in Kent will enable our Association to work the proposed new area with much less expenditure than would be possible with a new Association. Local secretaries in several Sussex centres having volunteered for the work, the income from new members next spring is likely to be more than sufficient to cover all extra expenses from the outset. The Council are of opinion that the proposed amalgamation is desirable, and they hope that members will take the same view when the subject in all its details is formally submitted for their approval at the next annual meeting."

The advantage to Sussex bee-keepers of this proposed fusion is obvious. They will be spared the trouble, delay, and heavy expense of forming a new Association, and without any outlay beyond the trifling subscription, they will participate *at once* with Kent bee-keepers in all the privileges accorded by an old-established Association.

If the scheme be carried through next January then Sussex will be able to enter for the County Trophy competition at Manchester, and it is well to remark here that *all* Sussex men who have choice honey should *at once* reserve some for that requirement.

The measures in contemplation for dealing with foul brood in Sussex will be far more easily carried out when the bee-keepers of the county are organised. If objection be raised to the working of two counties under one organisation, we have an excellent example in the case of the successful Lancashire and Cheshire B.K.A. That it will entail more labour and responsibility on the hard-working honorary secretary of the K.B.K.A. is about the only reason to be given why the plan should not be carried out; but as Mr. Brice himself is strongly in favour of the scheme, it would be hardly fair to advance that objection. Sussex bee-keepers who have not already signified their intention of joining the Association will oblige by communicating with Mr. H. W. Brice, hon. sec., Kent Bee-keepers' Association, Thornton Heath.

The annual subscription is 5s., which includes a free copy of the monthly *Record* for one year.

HONEY IMPORTS.

The total value of honey imported into the United Kingdom during the month of September, 1896, was £531.—*From a return furnished to the* BRITISH BEE JOURNAL *by the Statistical Office, H.M. Customs.*

ROXBURGHSHIRE B.K.A.

ANNUAL SHOW.

The annual exhibition of honey, hives, wax, and fruit in connection with the Roxburghshire Bee-keepers' Association was held in the Corn Exchange, Jedburgh, on the 26th ult. The honey, fruit, &c., were arranged on tables which stretched along the sides and centre of the hall, and a sprinkling of flowers and plants (lent by Mr. A. Scott and Mr. Charles Irvine) contributed to the variety and brightness of the exhibition. Amongst the prizes offered were five silver medals. In the class for hives five exhibits, all of a useful kind, were staged. There was a considerable

quantity of extracted honey in competition, and much of it of fine quality. One of the most successful of the honey competitions was the gift class. There were thirteen competitors, and the sections thus secured—with perhaps some additions—will be sold for the benefit of the Cottage Hospital. The judges were Mr. Richard Cairns, Dundee, and Mr. Christopher Chouler, Dalkeith; and the following were their awards:—

Collection of Honey not exceeding 100 *lb.*—1st, Thomas Clark, Pleasants School.

Collection of Honey not exceeding 50 *lb.*—1st, Thomas Clark; 2nd, Jas. Kerr, Timpendean.

Observatory Hive.—Adam Oliver, Queen-street.

Twelve 1-*lb. Sections.*—1st, A. Anderson, Minto; 2nd, A. Oliver.

Twelve 1-*lb. Sections Heather Honey.*—1st, Gideon Yellowlees, Castlegate; 2nd, Geo. Ormiston, Knowesouth; c, Thomas Ellis, Castlegate.

Design in Honey-comb. (County only.)—1st, Donald McGeachy, Obau; 2nd, A. Oliver.

Hive made by Exhibitor.—1st, John Cranston, Boundaries; 2nd, A. Oliver.

Six 1-*lb. Jars Granulated Honey.*—1st, Chas. Irvine, Canongate; 2nd, A. Oliver.

Six 1-*lb. Sections.*—1st, A. Anderson; 2nd, Adam Telfer, Castlegate; c., Thos. Mabon.

Six 2-*lb. Sections.*—1st, Wm. Weir, Heriot.

Six 1-*lb. Sections Heather Honey.*—1st, A. Anderson; 2nd, Robert Sinton, jun., Bonjedward; c., Thos. Mabon.

Five 1-*lb. Sections.*—1st, A. Anderson.

1-*lb. Section.*—1st, A. Anderson; 2nd, G. Ormiston.

Two 1-*lb. Sections (Gift Class).*—1st, Thos. Clark; 2nd, G. Ormiston; 3rd, A. Scott, Seaton House.

Super (non-sectional) Any Weight.—1st, Thos. Dodds, Hardenpeel; 2nd, A. Anderson.

Super (7 to 10 lb.).—1st, Wm. Swanston, Castlegate; 2nd, G. Yellowlees; c., T. Mabon.

Super (5 to 7 lb.).—1st, J. Kerr; 2nd, G. Yellowlees.

Super of Heather Honey (7 to 10 lb.).—1st, G. Ormiston; 2nd, G. Yellowlees.

Super (not under 10 lb.).—1st, Chas. Irvine.

Six lb. Extracted Honey.—1st, J. K. Young; 2nd, W. Weir.

Six 1-*lb. Jars Extracted Honey.*—1st, J. K. Young; 2nd, A. Scott.

Six 1-*lb. Jars Extracted Heather Honey.*—1st. J. Kerr.

Six lb. Extracted Honey.—1st, T. Clark; 2nd, T. Dodds.

1-*lb. Jar Extracted Honey.*—1st, J. K. Young; 2nd, R. Sinton, jun.

Bees-wax.—1st, G. Ormiston; 2nd, A. Oliver.

Wasps' Nests.—1st, J. Kerr; 2nd, Wm. Sinton.

The proceedings concluded with a prize-drawing, the first prize super being won by Mrs. Alexander Wilson, Royal Hotel, Jedburgh.—(*Communicated.*)

IRISH BEE-KEEPERS' ASSOCIATION.

The Committee met on 8th inst. Present, Mr. Gillies (in the chair), Mr. O'Brien, Mr. Drought, and Mr. Chenevix (hon. sec., 15, Morehampton-road, Dublin). It was reported that thirty-one persons instructed at Glasnevin had passed an examination in elementary bee-keeping held there on 3rd inst., and that Mr. Morony had given a very successful lecture lately at Lough Rynn. The Royal Dublin Society having agreed to give their prizes for honey at the winter (instead of the spring) show, it was resolved to send special notice to that effect to all members of the Association. The purchase of another extractor for loan to members was approved.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department reports of Associations, Shows, Meetings, Echoes, Queries Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand. London. W.C.*"

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

BEES AND FRUIT-GROWERS.

ARE BEES A NUISANCE?

[2644.] There are some questions about bees which happily only spring up once in a while, yet which should be repeated again and again in all papers—at least, those claiming to be classed among bee periodicals.

To my mind, the two questions—"Are bees a nuisance to fruit-growers?" more especially grape-growers, is the first and most interesting, and the second in a less degree, "The irritability of bees." The question of nuisance to fruit-growers is often raised by such vineyard-owners or other fruit-tree growers, who, seeing the comparative good revenues of their colleagues in agriculture, and also by an entire ignorance of the nature of the bee, are led by jealousy to rouse the mind of the more timid class of agriculturists to complain of the nuisance of bees. It is not to be denied that bees visit fruit trees in the autumn when loaded with fruit, but never will sound, well-conditioned fruit, be it apple, pear, or grape, be attacked or damaged by them. The bees will suck the cracked or *opened* berries of grapes, figs, or any other fruit previously opened by birds, wasps, or the like, but never

have I seen them roaming about healthy, ripe, and sound fruit of any kind; whilst very often grapes hanging in damp or shady places rot before they are gathered, and become the rendezvous of the whole insect world. The ill-will entertained at times by some towards a prosperous neighbour is often the cause of a casting about by the envious for some other than the natural cause of success and prosperity as well as failure, and in this way blame is too often put where entirely undeserved. It should therefore be the duty of every bee-keeper or friend of bee-culture to make it known that bees are completely free from the charge of being a nuisance to the fruit-grower so far as damaging his crops is concerned.

It should be made known to all interested that the bee is created and adapted for the fecundation of the flowers. Wherever I have been called upon to talk about bees, in private or publicly, I never let slip an opportunity for explaining that the natural food of bees is nectar (*i.e.*, honey), deposited or secreted in the flowers as an attraction for bees and other insects, who unconsciously carry with them the pollen necessary for fertilisation from one flower to another. Bees almost invariably visit the same species of flower on one trip, and even the mass of bees will visit the same kind of plants during their blossoming period in preference to others less conspicuous, or less to their taste, flowering at the same time. As a consequence of this instinct, the bee-keeper who works for extracted honey can frequently extract a distinctly flavoured honey at particular times, in which the intelligent onlooker or impartial observer can easily detect the odour of the flower from which it is gathered. It must be here remarked, however, that there are exceptions so far as the odour corresponding with that of the flowers from which it is gathered, and also that certain volatile qualities evaporate sooner or later after the honey is gathered. On the other hand, some honey retains the specific taste and smell more definite and decided as time goes on, and perhaps develops still more when the honey crystallises. Wild thyme abounds in almost all Mediterranean countries, but especially in the east and south. The renowned Thymettus honey is gathered from the fragrant thyme abounding on that mountain; as is almost all the honey I have tasted or raised myself from the Grecian Isles and the whole Levant. Yet most of the highly aromatic honies of these parts do not remind one of the thyme at all, though gathered, beyond doubt, from these blossoms. The same may be said of the equally aromatic honey gathered from the lavender blossom of the Alps, which bears no trace of the lavender odour. This latter honey has a very specific taste, finer than that from the thyme.

The chaste tree (agnus-castus) growing along the banks of rapid rivers generally dry in summer, has an almost intoxicating odour, emanating not only from the hemp-like leaves, but also from the flowers. This tree yields a very aromatic honey, and in the first few weeks after being gathered, the store-room is filled with its odour, which acts the same on the brain as when walking amongst the plants. The honey, however, crystallises very soon, and in this condition the obnoxious effect referred to disappears, never to be felt again. Horehound honey, and more especially that from the orange blossom, have very different qualities from the one just mentioned While fresh, the horehound or the orange blossom flavour is respectively very weak, but soon after extracting, when the honey begins to take some consistency, the orange blossom, horehound, or the (as the case may be) aroma and the flavour becomes strongly pronounced. So strong is the aroma that many persist in declaring the honey to be simply perfumed with that odour.

The second question as to "Irritability of Bees" is also often interpreted in a vicious way. Everybody knows that bees sting. They are furnished with a weapon wherewith to defend themselves, and sometimes use it very vigorously. But horses, too, can kick persons to death who imprudently put themselves in reach of the animal's hind legs after having sufficiently teased it. Dogs also can and will bite if irritated, yet horses and dogs are kept in all lands and by all conditions of men without any serious complaint of them being a nuisance to mankind. Why, then, should not bees be allowed the same tolerance? I have known bees in so terrible a temper as to kill camels, horses, donkeys, and in one instance ducks and chickens. Fortunately, for the reputation of the bees at least, all these animals belonged to ourselves. In this way we have lost, on separate occasions, far apart, a camel, a mare, and two donkeys.

The camel went about among the bee-hives pasturing, and in its ramblings managed to knock over a few hives. You can guess the rest. The next disaster occurred to a fine mare tethered near the hives on a rainy day—when all was quiet in the apiary—as abundant grass was growing round them. Whilst we were at dinner, however, the sun suddenly came out, and the sunshine brought out the bees, which covered the poor mare by the thousand; the consequence was death three hours afterwards. In the third case a donkey was tethered some distance from a dozen hives which had been just previously brutally thrown down by some camels, and the infuriated bees were boiling forth ready to vent their rage on anything. The poor donkey, being stung, and seeing the hives, galloped up to them to rid himself of the bees by rubbing against the hives—and so multiplied his enemies by the thousand. The scene is impossible to describe. Killed bees covered the ground, the air was alive with others, and the poor donkey patiently let himself be stung to death without even trying to escape. He seemed stunned by the

pain not more than a quarter of an hour after the attack. The poultry killed were attacked by the bees of some twenty hives just put down, and the entrance-holes opened after a journey of many hours. When liberated, the bees boiled forth and made havoc among the feathered inmates of the yard.

By the above it is clearly seen that the accidents were all either preventable or were provoked in some way in which the bees were not entirely to blame. Indeed, but for a stray sting here and there, we have never had anybody molested by our bees while standing in the apiary, or while the bees were about their work, notwithstanding the large number of hives gathered together in one spot. But when bees are once thoroughly aroused, or provoked by such causes as have been stated, it is easy to understand that they can become dangerous, and on such occasions it is necessary to keep out of harm's way, as any sensible person does from dogs or horses when it is risky to venture near without knowing them or how to treat them.

The prudent bee-keeper will himself never disturb his hives without first lighting his smoker and having his veil ready for use; for although many colonies of bees may be so managed as to become quite tame whilst being carefully handled, yet much time is often lost in taking all precautions to prevent the bees from stinging. The frequent use of the smoker is also necessary, especially in the south, where *Braula cæca* (or blind louse) abounds. As mentioned in the B.B.J. of October 8 (page 408), it sometimes infests frame-hives, but far more frequently those without movable frames, where no manipulation can take place, and where the smoker is never used. In such hives just bought from the country-people—who very rarely have bar-frame hives—half a dozen or more of these parasites may be detected on a queen. In earlier years we used to hold the queen while blowing a few puffs of tobacco smoke on her, when the little insects would fall off her body and die. It is rare to find the *Braula* in movable comb hives, whereby we may conclude that the frequent use of the smoker cleans the bees from these parasites.—Ph. J. Baldensperger, *Nice, Italy, Oct.* 10.

FREE VENTILATION IN WINTER.

[2645.] Having for a long period carefully observed the various queries and replies of our bee-keeping friends in your pages, I now ask to be allowed to say a word or two about our own bees and bee doings. Without having kept a full account of all the season's transactions, I may say we began the year with twenty-eight stocks of bees, and have since had about half a dozen swarms.

Bee forage of all kinds was a full month earlier here than usual, so that the hives were crowded with bees by the end of April, and we had to put on supers at once for storage and to make room for the increasing numbers of bees. Honey was not so plentiful afterwards as we expected, owing to the dry summer that followed, but we have taken off an average of about 56 lbs. of honey per hive all told; the crop being about half sections, and the rest extracted. I suppose this is good according to the season. Straw skep bee-keepers from whom I have made inquiries report that it has been a very bad season for bees. Regarding the sale of our honey crop, I am glad to say we have disposed of more than the half of it already at prices ranging from 8d. to 1s. per lb., some wholesale and some retail, and expect our stock to run short before the new honey of next year comes in. We distribute a lot of leaflets about honey, and are always careful to wrap one around each parcel before it is despatched, as I find but few people understand the granulation of honey. When first I offered it for sale, some purchasers would inquire very suspiciously, "What did I put Indian meal in it for?" Others thought granulation meant mixing sugar with the honey. Talking recently to an old bee friend, who believes in nothing but skeps, I showed him a jar of honey gathered three years ago. He would hardly believe that it was honey at all, much less that it was Irish honey in its purest state, and as good to-day as it was when bottled three years ago. I never saw the honey so thick and good before as it is this year. We have sold a few swarms, and go into winter quarters with thirty stocks. The autumn has been very wet and cold, but I never saw our hives better supplied with honey for winter at this time of the year without any feeding at all. Bees also are unusually strong, though queens have been completely crowded out (with honey) from breeding in some of the hives. We are always careful to keep none but vigorous young queens by introducing new blood and crossing them by new strains of bees. We have been packing up some stocks for the winter in what is to us rather a new style of wintering. If the hive is fairly strong in bees we take away no frames from brood-chamber at all, but pack as follows:—If the frames run parallel to the entrance we put them all to the back of the hive, after first removing the division-board—ordinarily in front—to rear of the hive, pack if necessary between it and the back wall of hive. As many frames as the bees can cover are then spaced a quarter inch wider apart than usual, and with no division-board or protection of any kind in front. The combs are left so all the winter. Whatever frames the bees cannot cover we carefully place flat on top of the other frames, with two pieces of wood between to form bee-passages; thus allowing the bees free access to the honey, and preserving the comb from being broken. The hive-space in front of the combs we leave open in order to give free ventilation without cold draughts. To protect the bees somewhat we, however, let

the quilt hang well down in front of the last comb to about 1½ in. off the bottom of the hive, but leave it free from the sides; then pack carefully and warmly the top of the hive well forward, and over the open space in front, but allow a clear space from the bottom to the roof of hive. Besides giving full and proper ventilation, there is another advantage in the above mode of wintering, for when snow is on the ground in spring the bees will not be enticed out so readily by blinks of sunshine, only to fall in the snow and be lost. For various reasons, which the intelligent bee-keeper will observe, in the foregoing method of packing the sun's rays cannot reach the bees, and even if the cluster expands a little, they will not fly out, because the lower temperature of the open space in front is nearly the same as it is outside, and they will be able there to judge for themselves whether to retreat or fly out. Frames fixed at right angles to the entrance will of course have to be put to the one side, and pack the same as before mentioned.

Now I have tried to make the foregoing as clear as possible, and I ask you, Messrs. Editors, to give me your opinion on the subject, and I would also be glad of the opinion of any of our experienced bee friends who may or may not have tried anything like the plan mentioned above.—"FREE VENTILATION," *Castlederg, co. Tyrone*, October 10.

[We have had no personal experience of wintering bees as described. It has, however, been made known and advocated by Mr. S. Simmins.—EDS.]

ASPECT FOR HIVES.

"KEEP YOUR EYES TOWARDS THE SUN-RISING, NOT TOWARDS THE SUN-SETTING."

[2646.] My hives are located on two sides of a lawn, *i.e.*, if a plot of grass which is never mown can be called a lawn. It is an ideal spot, from a bees' point of view, because, between each hive here is a large pyramid pear or apple-tree, or a great holly-bush, and as the greater row of hives face east, the sun at midday is screened off them by these trees. Bees are sun-worshippers, it is true, yet I am sure on blazing July days they are grateful for this kindly shade. Extending on either hand except south, there are large orchard trees which hold back the too boisterous winds of autumn or winter, or indeed till their arching boughs are made heavy with pink and white and creamy petals in spring. It is generally understood that bees will do as well in one position as another, facing north or south—on the top of a house or in the corner of a field; yet all my experience goes to prove that this is not a fact. The row of hives that face north-west and which do not get the sun upon their entrances till late in the afternoon have never done so well as their neighbours on the opposite side of the street—I mean the lawn.

To my mind such a result is as right in theory as in practice. The sun is the great invigorator, the oldest and most renowned patent medicine, the only life-giver. He peeps in through the diamond pane in the early morning, and from that moment Farmer Trampledaisy is desirous of smelling once more the sweet odour of the farmyard. He darts a ray through the tiniest crevice of the fowl-roost, and Mr. Chanticleer thirsts to lead his wives through a gap into the garden of Will Have-'em-smooth, esquire. He sends a gleam into the hive entrance and the bees make haste to rub the miller's dust out of their eyes, to shake their wings, to get out among the diamond dew, and the topmost blossoms of the apple boughs, the dear busy bees. But in the back attic facing north, Sarah Jane, our domestic (aged eighteen), lifts a weary eye to the brown-paper-patched window, and seeing no sun, she says, "He haven't rose yet, so I've got another 'our," and straightway she falls aslumber. And so, likewise, the bees who have the windows of their domiciles facing north or west turn over in their cells and have another nap. The worst and laziest hive of all is one I made, I do not like to think how many years ago. It is on the "Cowan-hive" principle, the body-box being some three inches from the outer walls. I call it the "Esquimaux hive," because, to reach their combs, the bees have to go down on their knees and crawl along a long dark passage. Probably it is too comfortable, when they get there, to hurry out again (it is warm in winter and cool in summer), for I have noticed every spring for years that on some days, when the bees of other hives are busy, these never turn out at all, and although I have had various stocks in it each year for ten years, not one ever prospered. As a contrast, another hive (which is on the sunny side) has only half-inch walls on two sides, and the inmates of this invariably render a good account of themselves. In fact, all the hives (ten) facing east do much better than those facing west or north-west. So, in conclusion, I say stand the hives where they will get plenty of sun and air about them, and never face their windows to the west or north. Bees are deep drinkers of the sweetest and best of wines—air and sun-warmth. In their passionate love of the open air, the short sward of the thyme-clad chalk hills, the ling that glorifies the moor and fell, they go hand in hand with their master and friend.—LORDSWOOD, *October* 8.

TAKING QUEEN TO SOUTH AFRICA.

[2647.] The following note may possess interest for readers of the B.J.—H. W. B.

"I am very pleased to tell you the queen-bee is alive and doing well with her new companions. We had a very rough passage out, which lasted five weeks, and then the

journey up country took three days, so that altogether the queen-bee was imprisoned for six weeks, and now looks none the worse for it. I gave her every attention during the voyage, and I feel sure it would be impossible to send queens to Africa unless in charge of a passenger, everything is treated so badly on board.

"Your cage I still keep as a novelty; should like to hear from you, and will send notes to the BRITISH BEE JOURNAL occasionally on bee-keeping in Africa, if they would possess any interest for its readers. I am making it a study, and am trying to find out the various enemies and diseases African bees are troubled with."—CHARLES H. FARMAN, *Lovedale, South Africa, September* 5, '96.

Queries and Replies.

[1565.] *The Eyesight of the Bee.*—At the meeting of our Literary Society yesterday (Friday) evening I read a short paper on bee-keeping. Later on in the evening I had a question addressed me to which I was unable to give a satisfactory reply. I shall feel extremely obliged to you if you can answer it for me in your valuable paper, as I am only a beginner, and not very well versed in the anatomy of the bee at present. The following is the question:—"Is it true that a bee can only see to a distance of twenty yards?" An instance was given that a bee on flying home, if there were a high fence or wall in its way, that bee would keep straight on in its flight till within about twenty yards of the obstruction, when it would rise perpendicularly in the air and pass over the obstacle, and would then resume its former elevation.—C. W. TILLER, *Thornton Heath, October* 10.

REPLY.—All the information we can afford on the subject may be gathered from two short paragraphs in the chapter on the "Eyes and Sight" of bees, pp. 104 and 5 of *The Honey Bee*, by T. W. Cowan, which read as follows:—

"Our knowledge with regard to practical vision in bees is still very imperfect, although no one will deny that sight is highly developed. Lowne has calculated, by the angle formed by the lenses of the compound eyes, that bees can at a distance of twenty feet distinguish objects from half to one inch in diameter. These eyes are, therefore, necessary for long vision."

"With respect to the ocelli (or simple eyes), Müller considered that from their structure the power of vision was 'confined to the perception of very near objects.' The simple eyes bear a similar relation to the compound eyes as the palpi do to the antennæ. Both the antennæ and compound eyes, he says, are absent in the larvæ."

If, then, the compound eyes are "necessary," and specially adapted for "long vision," and, on the other hand, that the powers of ocelli, or simple eyes are "confined to the perception of very near objects," there are strong grounds for the assumption that bees are enabled to see long distances, and that the fact of their flying at a low altitude before mounting a wall or obstruction of any kind arises from their wisely seeking shelter when heavily laden on the homeward journey.

[1566.] *Caring for Bees in Winter.*—As the coming winter will be the first I have known as a bee-keeper, I am uncertain whether I have done everything under the circumstances to ensure their safety and coming out strong and healthy in the spring. Below I give the positions of the hives and what I have done towards wintering them, and should be glad of your opinion and advice in the matter.

My hives are divided into two gardens or apiaries. In one (A) I have three skeps and six frame hives. In the other (B) six frame hives. All the hives are fairly strong in bees, and I consider have plenty of stores. The hives in A face due south, and are sheltered from the north by a yew hedge 5 ft. high. (By the way, is there any truth in Virgil's statement that yew trees are injurious to bees?) Those in B face south-east, and are sheltered from the north-west by a high garden wall.

1. I have prepared the skeps by merely wrapping them round from the stool to the crown with straw bands (as used for tying trusses of hay) and then replacing their coverings of inverted milk bowls. Is this enough? The bees in the frame-hives are on from six to nine frames. Seven of the frame-hives are very large and capable of holding fifteen frames each. In these I have moved the frames so that they occupy the central portions of the hives, placing a division board in front of the first frames, and fronts of the hives in the same manner as division-boards are placed behind the last frames. These division boards, of course, allow of the entrance and exit of the bees. Consequently, as the sides of the hives are double, there is an air-space all round the combs. The spaces between the division boards and the fronts and backs of the hives I have stuffed with clean, dry hay. I have covered the frames in all hives with two or three quilts of calico or other light material, and two or three layers of bass matting, such as is used for fish baskets, though, of course, never put to that use. 2. It is possible the snow driving one night may fall deep enough to reach and cover the flight boards of several of the hives, but, I presume, if cleared away in the morning no damage will be done. Would you raise the hives? If it shohld be thought advisable, I could remove all hives into a large hay barn open to the weather on one side (the N.E.) only. This barn is some 50 yards from one and 100 yards from the other garden. 3. Do you recommend such a removal? If so, when should it be done? The winters here, though protracted, are often

not so cold as even further south. 4. I have heard, though from people knowing little of the subject, of double hives, but as yet have been unable to clearly understand their management. Would it be asking too much of you to give a lucid description of a double hive, and to state what (if any) are the advantages? —H. V. BAINES, *Bell Hall, York, October* 12.

REPLY.—1. Yes. 2. There is no real need for clearing away snow until it begins to melt, and causes damp about hives. 3. On no account move hives from their original stands. 4. Mr. Wells' pamphlet (price 6½d) would help you in this matter.

[1567.] *Replies to Queries.*—Many thanks for inserting my queries in JOURNAL of the 1st inst. (No. 1557), but I do not see that your replies help me in any way.—E. T., *Penryn, October* 6.

REPLY.—We are, of course, sorry you fail to get any help from the replies given on page 398, but cannot admit the fault to be ours. However, we will try again, in somewhat different fashion, and may have more success, for we try not to grudge trouble in making ourselves understood by all. Your first question begins by explaining the steps taken to disinfect two hives in which bees died ten years ago from foul brood, and ends by asking, "Can I do anything further to them?" Well, our reply is to the effect that, if the disinfecting has been thorough, the hives should be safe for using again. But, bearing in mind the prolonged vitality of the spores of foul brood, we express a hope that the old frames, as well as combs, have been destroyed. Is there any vagueness about this reply? Question No. 2 states that 15 lb. of sugar has been given to the bees, and ends with, "How much should I give?" The reply is, "20 lb. for each lot of bees, if they have to build new combs from the food." Surely that is plain enough. The final query simply asks "If Demerara is as good as loaf sugar for bee-food?" and our reply is, "If the Demerara sugar used is a moist or raw sugar, it is entirely unfit for autumn bee-food. We do not know if the above will be more helpful to our correspondent, but the replies here given are identical in effect and almost in the same words as appear on page 398.

[1568.] *Suspected Foul Brood.*—I am sending you a piece of brood-comb from a hive that I have. The hive was examined by an expert in the spring of 1896, and declared to be in a healthy condition and free from disease. A few weeks afterwards it was bought and examined by another expert, who was convinced that foul brood was there. The hive was returned to me, and has been hardly touched all the summer; now, however, the first-mentioned expert has looked at it. He considers that it is now free from disease, but for the satisfaction of all parties it has been thought best to send you a specimen taken from a frame in which are most of the brood-cells. Would you kindly give your opinion in the pages of the JOURNAL?—H. P. C.

REPLY.—After careful examination we find no foul brood in comb received. It was, however, a suspicious case requiring care and time in deciding, and the delay in reply has, in consequence, been unavoidable.

[1569.] *Adding Phenol to Bee Food.*—Would phenol added to hot syrup have the same results as when added to cold syrup? If not, which would have the greatest effect in destroying bacillus, and why?—R. HAMLYN HARRIS, *Hambrook, Bristol, October* 9.

REPLY.—If phenol is added to *hot* syrup, no doubt more or less of the antiseptic properties of the remedy would pass off by evaporation, and consequently lessen its value to some extent. We should add the phenol solution while the syrup is just warm, for convenience of blending well while stirring in.

VARIATION IN HONEY HARVEST.

A correspondent, writing on the 9th inst., says:—"On behalf of several interested in bee-keeping, I have sent you an extract from the *Lynn Advertiser* of the above date, which reads as under:—'*Harpley.—Bee-keeping.*—Mr. W. J. Norman, of Harpley Mills, has during the past few months given this subject special attention. From June 2 to August 31, from seven bee-hives, 594 1-lb. sections and four bars of comb, a total weight of 44 stone (616 lb.), were taken. The best hive produced 121 1-lb. sections and 15 lb. in the comb—total, 9 stone 10 lb. (136 lb.). The total realised was 5½ cwt." As great doubts are entertained about the correctness of the statement, we should feel obliged if you, through the BEE JOURNAL, give us your valuable opinion in the matter. I may say that not one of the hives are on the "Wells" principle, all being the ordinary bar-framed hives. There were 20 acres of white clover near at hand, but with this we think the correct mark has been overstepped."

[So far as expressing an opinion on the above, we congratulate the gentleman named on his good fortune in securing an excellent harvest of honey in what has been, for bee-keepers generally, a rather poor season. There is, however, nothing at all extraordinary in reading of 136 lb. of honey being got from a single hive even in the season now ended, with "20 acres of white clover near at hand," as stated. Several correspondents, for whose veracity we can vouch, have taken greater weights of honey from single colonies than the one given above. The average of 88 lb. per hive from seven stocks is also a very good one for 1896, but we have in our monthly, the *Record*, for October a reliable statement by a Scotch bee-keeper of an average of 100 lb. from a total of twenty-two hives, spring count.

This is far higher, taken as a whole. Another Scotch bee-keeper reports 500 lb. from five hives. And so far as single-stock returns, three lady bee-keepers, all residing in the county of Kent, report their best colonies having this year yielded 220 lb., 115 lb., and 112½ lb. respectively. Therefore, unless the accuracy of all these reports is to be questioned, we see no valid reason for believing other than that the one quoted by our correspondent is perfectly correct. The remarkable variation of returns is nothing new, though it is often so surprising as to create reasonable suspicion among those whose experience differs so widely from what they read of. To give an instance from the same report in *Record* from which we have quoted above, Mr. W. McNally says :—"I know of one bee-man who has only secured 70 lb. of surplus from eighteen hives." And that presumably in the same county where 2,200 lb. was got from twenty-two stocks.—EDS.]

PRESERVATION OF COMB AND RENDERING OF WAX.

BY HON. R. L. TAYLOR,

Superintendent of the Michigan Experiment Apiary.

While the production of wax is not made a special object by bee-keepers, at least, not in Northern latitudes, yet in every apiary a considerable amount of wax may be obtained from brace-combs, from frames, honey-boards, &c., and from drone-comb and broken bits of other comb, if one is careful to preserve them for that purpose. Often, too, a considerable portion of the bees of an apiary perish during the winter and spring, especially where little or no care has been taken to secure their comfort during those seasons, and sometimes combs become affected by the germs of the contagious disease known as foul brood. In this latter case the destruction of the combs is absolutely necessary in order to prevent the spread of the disease, and in the former, in such apiaries, there will be combs useless from crookedness, or because they are made up largely of drone-cells, that are of little value as such, and in many such cases it will not be deemed desirable to undertake the preservation of first-class combs, from the prospect that moths or mice may destroy them before they can be put to use among the bees. In all such cases it is important that the wax the comb contains should be secured by rendering.

However, the value of choice comb is so great that its destruction should not be entered upon hastily, nor until it is fully settled, after a careful canvass of all the circumstances, that to its owner the wax it contains is all there is of value. To determine its value as comb, consider that experienced bee-keepers think it very profitable to purchase comb foundation at the rate of 10 cents for enough to fill a Langstroth frame, besides the cost of transporting it and the labour of putting it into the frame—say 12½ cents in all. The comb is certainly as such, worth no less, and for some purposes very much more, but the wax that can be got from it, *i.e.*, from the comb of a Langstroth frame, is not worth more than five or six cents, which must still be heavily discounted on account of the labour involved in rendering the wax. So the least that can be said for good combs is, that they are worth at least 50 cents more per eight-frame hive for use as combs than for purposes as wax.

It is very evident, then, if one has combs that cannot presently be made use of by the bees, it is worth while to know how to keep them in a good state of preservation. Moths and mice are the enemies that work the most rapid destruction, but light and moisture in connection with bee-bread and other foreign matter cause a gradual deterioration. I have experimented largely, both during the past year as well as during prior years, with different methods of preserving combs, and it has not been altogether from choice, but rather a case of necessity, for I have had on hand, not in use, for several years, from 1,000 to 2,000 combs. There are four methods which I have found to have merit, as follows :—

1. Placing them in hives, over strong colonies, so that the bees can have free access to them. To good colonies from one to half a dozen hives of empty combs may be given ; care only need be taken that no more be given than the bees will visit somewhat freely. Where it can be used this is the safest and best method, for the bees not only protect completely, but clean them to a considerable extent, so that they are put in better condition for preservation than by other methods ; still it has its disadvantages. The combs must be handled two or four times in a season, and during the honey season if comb honey is produced they must be removed, and this is the time when they especially need protection from moths.

2. I have had excellent success in keeping them in close hives in the shop by laying two thicknesses of newspaper upon a level place on the floor, setting a hive of combs upon the paper, covering the hive with two thicknesses of the paper, putting another hive covered with paper on that, and so continue the operation until the pile is of the desired height, when the topmost hive is to be protected with paper and a close-fitting cover. As the combs are thus so tightly enclosed, they must be reasonably dry and stored only in a dry place. It is all-important, too, that they be put away early, at least before moths have an opportunity to deposit their eggs in them. By this method I have kept combs the season through without the sign of a moth, while those put up in the same room, in the same way, except that the paper was not used, required constant care to preserve them from destruction. The insect that produces the egg from which the moth emerges is furnished with a long ovipositor which she can insert in a small opening, such as she is almost sure to

find somewhere between almost any two hives set one upon another. No doubt the openings are present only in a less degree where the paper is used, but for some reason they appear not to invite the moth; it may be because there is something repulsive to her in paper, or, possibly, because the paper, extending outward from the hives all around an inch or so, does not allow her to take the position she desires when she uses her ovipositor. There is one function which it seems reasonable to suppose the paper would perform, though, as yet, I have had nothing to test it, that is, in case the moths should obtain a lodgment in one hive, to impede their spread to the others. Tar paper unquestionably would be much more effective in this respect, and quite likely fully as repulsive to the egg-laying moth. It is worthy of a trial. The method here described, when the combs are reasonably clean, has proved with me on the whole the most satisfactory.

3. Another way that is entirely effective against moths is to hang the combs up to the light and air with a space of at least one inch between each comb and its neighbours. This answers well enough for a season or two, or even longer, when the combs have become toughened by the cocoons of many generations of brood; but if the combs are new, the light seems to have a deteriorating effect upon the wax composing them, causing it to readily crumble; besides, combs so disposed gather dust and the webs of other insects than the moths. For convenience in practising this plan, when I built my shop I placed the joists overhead so as to freely admit the top-bar of a Langstroth frame crosswise, then by nailing half-inch strips near the lower edge of neighbouring joists, each space is made to conveniently accommodate a tier of combs, their arms resting upon the half-inch strips.

4. The other method I have to mention is the placing of the combs in hives in the bee-cellar. It appears that a somewhat high temperature is necessary for the propagation of the wax-moth—at least, I have never known them to breed in combs placed in the cellar—so I think I may safely say that any good, cool cellar would be a sure protection against the moths. Unfortunately my cellar is damp, on account of which there is a liability to mould, unless the combs are free from filth and bee-bread, and it is worse still if they contain any honey, since, by attracting the moisture, it begins to run and thereby disfigures both combs and hives.

Mice are particularly fond of bees and bee-bread, as well as a hive of combs as a place for building their nests; consequently, if they can possibly reach the combs they are liable to do much damage in a short time. The only security against them is to put the combs away in such a manner that they can by no possibility get them.

(Concluded next week.)

Bee-Keepers' Review.

Bee Shows to Come.

October 17, at the Town Hall, Rutherglen, N.B. — Second Annual Show of Honey, Appliances, Fruit, Vegetables, &c. For schedules, apply to John Stevenson, secretary, Maryton Braes, Larkhall, N.B.

October 20, 21, 22, and 23, at the Royal Agricultural Hall, Islington, London, N. Twenty-first Annual Show of the British Dairy Farmers' Association. Eight classes for honey, with liberal prize money, and a class for interesting and instructive exhibits connected with bee culture. Entries closed.

November 12.—In connection with Ludlow Fruit and Chrysanthemum Society's Exhibition. Two open classes. Entry fee, 1s. each class. Schedules from J. Palmer, 17, Brand-lane, Ludlow. Entries close November 5.

November 18 and 19,at Newcastle-on-Tyne. —Northumberland and Durham B.K.A., in connection with the Horticultural Society's Chrysanthemum Show at the Town Hall. Three open classes. Entry fee, 1s. each class. Schedules from J. N. Kidd, 29, Windermere-street, Gateshead. Entries close November 13.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

FRANK B. THOMPSON (Boston).—*Bee Pasture.* —1. The district as described should make a fairly good place for bees in the early season, but fruit-bloom "half a mile away," even if plentiful, sometimes fails more or less, as a crop, by reason of cold winds prevailing just when plums, apples, &c., are in full flower. On the other hand, if you have any summer crop of bee forage, such as clover, field-beans, lime trees, &c., bees would no doubt do well. Nothing, however, will test the district thoroughly but a trial; we should begin with one or two hives at most, then add to the number if desirable. 2. The double white narcissus is not relied on as a honey-producing flower.

NEWTON.—It is a bad case of foul brood, and as "the stock has been carried some miles away" to prevent infection in your own hives, you should at once burn the bees and combs where it is. By doing so it will save risk to any bees in the neighbourhood.

E. C. (Yorks).—Comb is afflicted with foul brood.

F. S. L. S.—Comb sent contains nothing worse than pollen and liquid food. An average of 3 lb. of sealed food in nine frames, as stated, will be ample provision for winter, so any further feeding is entirely superfluous.

Replies to A. WEBBER *and* JOHN EMSON *will appear in our next.*

Editorial, Notices, &c.

THE PROPOSED JOINT ASSOCIATION FOR KENT AND SUSSEX.

We are requested to publish the following resolution adopted by the Council of the Surrey Bee-keepers' Association at their monthly meeting held on the 17th inst.:—

Resolved—"That the Council of the Surrey Bee-keepers' Association have been gratified to hear that the Council of the Kent Bee-keepers' Association propose to extend the advantages of their association to bee-keepers in Sussex, who are sufficiently near Kent to participate in them; and would like it to be known that the Surrey Bee-keepers' Association have already offered the same advantages to Sussex bee-keepers in their neighbourhood, and that these advantages have been appreciated in a marked degree."

By way of explanation we are asked to add that the proposal of the Kent Bee-keepers' Association to incorporate the territorial title of Sussex with their own county, having been made public for the first time in our columns, is the reason for the above resolution.

The organisers and management of the Surrey Bee-keepers' Association in its reconstituted form also desire it to be understood that "they have looked upon Sussex as a fair recruiting ground for members until she has an association for herself, and not without reason, when it is considered that Surrey and Sussex are more nearly connected by adjoining territory than is Kent with the latter. A great deal of work has already been done on the Sussex borderland to secure members, and much more is contemplated; but it is felt strongly that any such formal annexation of the county of Sussex by the Kent Bee-keepers' Association, as is contemplated, will prejudice their efforts, and may produce friction between the two associations."

"The Council of the Surrey Bee-keepers' Association believe that there is ample room in Sussex for both associations to push their respective claims, each in its own immediate neighbourhood, and that it will only be necessary that these facts be made public to induce the Kent Association to withdraw their proposal."

We are told that the resolution was adopted in no spirit of antagonism to the Kent Bee-keepers' Association, but only with a view of bringing about a clear understanding on the subject.

There seems to be no reason why the county of Sussex should not be apportioned to both Kent and Surrey, to the advantage of all concerned. There is already a territorial division of the county into East and West Sussex, and if Kent took over the eastern portion it would include all that is nearest to its own centre, and West Sussex could be absorbed in Surrey.

BEE-KEEPING IN HUNTS.

A SUGGESTION *re* FOUL BROOD.

THE following letter appears in the *Hunts County News* of the 17th inst.:—

TO THE EDITOR.

SIR,—I wish to make what will no doubt be considered a novel request on behalf of the Hunts Bee-keepers' Association.

It is well known by those who have taken any interest in the work of the above Association that there is a disease—foul brood—to which bees are subject. Until recent years this disease did not exist in a single apiary in the county, but now, I regret to say, there are a few districts where apiaries are so badly affected that the only method of dealing with it to save other apiaries in the neighbourhood is to burn the affected stocks.

Here a difficulty presents itself. Some people, for reasons best known to themselves, will not take steps in their own apiaries to rid the district of the source of infection. The result is that the disease takes its course, spreads throughout the whole apiary, and in time is carried to all the hives within bee-flight, and thus, because a few stocks are not destroyed at first, scores or hundreds may subsequently be lost.

The county councils and the British Bee-keepers' Association have worked together for some time with a view to placing upon the statute book a Bill authorising the inspection of suspicious apiaries, and the destruction of badly-infected stocks. But as a matter of justice, if stocks are then destroyed for the common good, compensation out of a common fund will be paid.

Now, seeing that there are only a few infected areas in the county, a united effort of all interested in the extension of the industry should be made to clear out the disease. The longer the cases referred to are allowed to remain the greater the certainty of the disease spreading far and wide, and therefore I appeal with confidence to bee-keepers in all parts of the country to assist in a work that should be no longer delayed.

There is, unfortunately, no fund available out of which compensation might be paid, and without compensation nothing can be done. I therefore suggest that for every diseased stock destroyed by order of a competent expert a swarm shall be given by the Association next spring. To enable them to do this I invite willing helpers in the work of extermination to write at once to me promising one or two swarms as a gift to the Association, to be used in the manner directed above, and then we may possibly be able, when the Act passes, to show a clean bill of health in all our apiaries.—C. N. WHITE, Hon. Sec. Hunts B.K.A., October 13.

[We shall be very pleased to hear that the above suggestion is favourably received, and wish it every success.—EDS.]

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*"

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

DOINGS OF THE PAST MONTH.

[2648.] In adopting the above heading in connection with a few remarks I propose to make periodically as to work done in and about my apiaries for the four weeks preceding the date on which my "doings" will appear in print, I have a sort of indefinable impression that the title I have chosen is not entirely new. It has a familiar ring that reminds me of something I have heard or read of at some time, either in the columns of this journal or elsewhere. It may be that I have in mind "Work for the Month" in your *Record*; but be this as it may, there has been no continuous record of any one's apicultural doings of the past month in the B.B.J. for many years, therefore no one's rights will be infringed either in taking this title or in recounting my actual bee-doings during the period indicated. I am, however, impelled to ask, Does the past month's "doings" in my own apiaries possess sufficient interest for general readers to make it worth recounting? Much of what I shall say will of course be stale, being done and past recall; but then a thing has to be done before it can be recorded at all. Our most modern works are but chronicles or reiterations of work already accomplished, so that any scruples on this head may be unnecessary. If our editors think otherwise, or if it should appear that a recital of matters gone before will possess no interest for readers, do not hesitate to drop the next communication received under this heading in that receptacle which may be likened to the place from whence we are told no rejected MSS. ever return.

In dealing with matters apicultural I generally endeavour to leave myself and my belongings in the background, but in talking about one's own immediate "doings" it is necessary to tell what I have to do *with*, and give some details of the places where the work is done. Therefore let me say that I am the happy possessor of two apiaries, one in Surrey nd one in the Weald of Kent. The two places are about twenty miles apart. At Thornton Heath, as most of your readers know, bees are kept for experimental purposes and for queen rearing only, and although the number of colonies expands to perhaps fifty or sixty in the spring and summer months, this number is reduced very considerably as winter approaches. In my Kent apiary the exact opposite is the case, the number of colonies there being increased year by year, while there is room for over 100 hives placed 6 ft. to 8 ft. apart. Two good-sized bee-houses, each containing eight or ten stocks of bees, are also capable of accommodating all my appliances, including frame-cupboard holding 360 frames of comb when full, besides the thousand-and-one necessary implements and other things required for conducting a honey-producing establishment conducted on business lines. Here are also kept—as at my "home" apiary—a complete set of tools necessary for queen-rearing. At the "out" apiary, however, queen-rearing comes second, honey-production first, while at the "home" apiary the exact opposite is the case, honey being nowhere. At the "works" in Kent I am obliged to provide conveniences of a rough sort for all the "wants of man and bees." This sort of providing is a necessity, the nearest village being some distance away, and valuable time would consequently be lost over the commissariat department if the bee-house did not contain its own "larder." Here let me say that more than one well-known authority in the bee-world has borne testimony to the novel and hearty enjoyment afforded by an afternoon "picnic" on that spot. The outlook from my little "bee-farm on the hill" is by no means an ordinary one, and my personal estimate of its beauties seems to be shared by all who visit the spot. Situate 500 ft. above sea-level, the village below half-hidden by limes, chestnuts, and sycamores, with extensive fruit-orchards on the more or less distant hills for miles around, make up a bit of landscape, to my mind, not often surpassed even in "The Garden of England"—Kent. In view, then, of this scene, I spend my Saturday afternoons, all through the spring and summer time, "among the bees." No sound heard but the steady, musical hum of their labour and that of my own "pottering about" among them; and thus hoisted up, as it were, high above the nearest roadway—a thousand yards away, but busy enough at times with passing cyclists and wagonettes loaded with noisy pleasure-seekers—I often revel in the reflection that both bees and myself are so safely perched up aloft, enabling, perhaps, timid wayfarers, busy bees and their owner, each and all to go on their respective ways free from restraint and with no fear of mischief or damage in any direction; moreover, with no consciousness on the part of strangers that on the quiet-looking hill-top above stands a busier workshop, with more of earnest workers in it, than any they ever gazed upon in their lives. So

far as bee-pasturage is concerned, I consider it an ideal location. One well able to judge declared it to be "a paradise for the bees."

I fear my—shall I call it?—"pride of place" is carrying me away from the "doings" which is the main concern of these papers, so let me say—In both apiaries the hives have consecutive numbers placed on the roofs, and a simple system of using letters and figures below these numbers enables me to tell at once the condition within. Thus, Q '96 stands for queen of 1896, ϕ means queenless stock, V.Q. spells virgin queen, L 1 · 5 · 96 shows that a young queen commenced to lay on May 1, 1896; Q.C. means queen-cell, with date to indicate probable time of hatching; S 1 · 6 means supered June 1, and so on. For indoor reference, a small slip of paper with number representing each hive suffices. Against each number is repeated the same signs as appear on the roofs outside; thus the two records check each other, and I find this double-entry works admirably.

So far as preparing the bees for winter, it will be admitted on all hands that the weather has been most trying. Wet and dreary, with hardly a single bee-day for the last month, the necessary work has been much delayed. It has, however, been got through at last. Stores were found greatly diminished, and a primitive stove had to be improvised, and over this a cauldron was swung, something (not much) like to that of the witches in "Macbeth," but instead of "bubble, bubble" incantations, candy cake was made for the bees therein. Winter quilts were got out, and placed on hives; frames were reduced to the requisite number; passages over tops of frames provided prior to quilting down; hive roofs seen to, made water-tight, and painted where necessary, precautionary measures taken to prevent hive roofs from being displaced or blown off in coming storms, either by placing heavy stones thereon, or by driving a stake in the ground, and affixing a cord thereto with a big stone tied to the other end, so that it hangs by means of the cord, according to the plan advised in the pages of this journal some time ago. Nothing, in fact, necessary to be done has been omitted so far as the safety or comfort of the bees are concerned, for I regard October as closing the present bee-year; and next month to practically commence the work of the new season. There are still one or two stocks at my home apiary waiting for queens to arrive from Italy. "Oh, dear, what can the matter be?" runs the old song. I would add the queen-breeders in the sunny land mentioned are decidedly "slow" this year from some cause. Queens ordered months ago are not yet to hand. As is my wont, I ordered from various sources abroad several lots of queens from which to choose my breeders for next season; but, although orders were sent as long ago as July last, there are still some queens to come. One lot arrived fourteen days ago, and by the same post came a card from another breeder stating that queens were sent off on September 29, yet as I write (October 20) they are not to hand, though the mail takes forty-eight hours only between the two countries. I happen to know that others besides myself have been much disappointed by non-arrival of expected queens. So far as myself it matter little—a stock or two less being of no moment, as I "join them up" to the next stock at the end of this month; but to those with only a few colonies at this season it is a serious affair. If queens are not received almost directly, and before severe weather sets in, my advice is to cancel the order, as they will not be received alive at all this year; and, if received dead, they should be returned at once, and the breeders' pressed next spring to fulfil their contracts. The same thing occurs year after year, and I am now so used to it as to expect and provide for these little contingencies.—Henry W. Brice.

WAX.

How to make wax without making the ladies "waxy."

[2649.] Once upon a time I used to get into trouble with the (as old Warder puts it) more shrill sex simply because I had all the crockery ware and all the pots, pans, &c., in the house filled with wax in various stages of development. The sex whose voice is more deep and dreadful (Warder again) would not have let so trifling a matter as this worry them in the least, but women are (thank Heaven!) constructed differently.

Each autumn it used to take me about a fortnight, each evening from seven o'clock till long past midnight, to render about 5 lb. of wax. If the running and bottling of the honey exasperated the ladies of the hearth, the rendering of the wax nearly drove them frantic. The horrid smell, or as I would have it, "the delicious odour," the increased coal and gas bills, the burnt jam jars, the tea and egg cups that had mysterious cracks where none were before—all these trifling things seemed to make the sex who are naturally shrill more shriller than ever; in fact, so engine-like that it became necessary for me to think-out a way of making combs into wax without making the ladies into a "wax" also. With this idea in view, and after exhaustive trials (exhaustive both to myself and others), I came to the solemn conclusion that all methods necessitating the use of oven or fire, however delightful in theory, are bad in practice. Even the latest tin extractors, in which steam melts the wax, certainly fail to extract it all, for the tough cells which happen to look skyward hold it, and the whole mass is waxy—not dry, as it should be. To grade the combs from the very whitest drone comb to the very brownest brood comb; to have each melting in its own crucible, the brownest brown in a "Hartley's marmalade" jar, the not so brown in the

soup toureen (I hope I have spelt that right) while the palest pale nicely oils the pudding-basin — may seem, and is, no doubt, from the beginner's point of view, the most æsthetic way of rendering wax, but the old hand whose heart beats no faster than is its wont, even at the sight of a hundred-weight of comb, carefully prepares everything beforehand, then, laughing up his sleeve, one fine evening he puts his old hand in pocket and drawing out the necessary cash, sends the whole family, Sarah Jane, the domestic (now thoroughly awake) included, to see "My Girl" at the theatre. So the coast being clear, he goes to work, and towards midnight, when the family approach to within about half a mile of the house, Sarah Jane, being a little in advance ("to prepare the master"), sniffs and says, "Lor', wot a 'orrid smell a' wax!" The "delicious odour" in fact thickens as the family advance, and when they arrive and make investigations of the back premises—call it back kitchen, brewhouse, wash-house, or what you will—lo, there is the smiling master already "prepared," there is the boiler into which line-props, forced against the ceiling, descend, holding down the bag of combs, and there on the top of the wobbling, scalding water is the wax! And although bees do not collect wax here, do not carry it in on their hind legs like pollen, as they do in some parts of Kent, still from nearly a score hives I get, in about four years, 20 lb. of wax, which not being able to get my price for (the theatre arrangement enhances the price!), I send up to Messrs. Abbott, who return it made into the foundation of the bees' future home, which I, with silver (plated) spoon and mortar of wax, proceed to lay.—LORDSWOOD.

WINTERING OF BEES.

ATTIC *v.* CELLAR.

[2650.] In the autumn of 1887 I had between fifty and sixty hives of bees to pack away for the winter months, and amongst them a lot of badly-made hives, which, in spite of all my efforts, would get damp inside.

At the time I was living in a veritable paradise for bees—*i.e.*, Nottinghamshire—and close by the dukeries.

I had read many varied experiences of wintering bees, as described by correspondents in the BRITISH BEE JOURNAL, and it was from a Scotch bee-keeper's experience that I had read which induced me to try a rather unusual experiment.

I possessed a very large and roomy attic, with concrete floor, and into this attic in the middle of November I transported twelve hives of bees. I boarded the window up and otherwise made the place as "dark as a bag," as the saying goes.

I had also three large dry cellars. The cellar steps entered into No. 1. cellar; from No. 1 you entered No. 2 by a doorway, and from No. 2 to No. 3 the same.

Into No. 3 cellar I also tranferred twelve colonies. I watched my experiments for the first week or two with considerable trepidation; but all went on smoothly, and I began to shake hands and congratulate myself on having at last found an ideal method of wintering bees.

But alas! I had a rude awakening.

There had been a fall of snow during the earlier part of January, and about the middle of the month there came a glorious hot day which dispelled the snow like magic. A few days afterwards I thought I would go and see how my attic friends were getting on. My first footstep into the darkened attic told me, "like a flash of lightning," the result. I was walking on a thick carpet of dead bees. I let daylight into that attic in double quick time, only to find that the whole of my twelve colonies carpeted the room. The glaring hot sun had raised the temperature of the attic, and also of the bees, which had left their hives to perish on the floor. Although my attic speculation had turned out a miserable failure, I am glad to record that my cellar experiment was a complete success. I don't think I lost a hundred bees in the cellar, and the majority of these perished at different times, whilst I was examining with a lighted candle. Unfortunately, I didn't weigh my stocks at time of taking them into the cellar, nor when I brought them out at spring, and so cannot give exact information as to amount of stores consumed; but I know it was very little. As near as I could estimate the consumption was not more than 6 lb. per hive. In conclusion, I may state the winter packing of my attic friends varied considerably from that adopted with my cellar customers, and although I blamed old "Sol" at the time as the cause of my attic disaster, later experiments have taught me that to the difference of packing my non-success was mainly due.—JOHN GOODALL, *Dosthill Lodge, near Tamworth.*

SPARE THE EDITORS!

[2651.] Our "Reply to Querists" Editor must be gifted with an amazing fund of patience, for in nearly every week's issue I see questions asked that the querist himself might have answered if he had given the subject a moment's thought. C. W. Tiller, in B.J. of October 15, asks such a question on page 417. The Editor gives a most courteous reply. Had I to answer the question, I should say: "What do you expect a bee to do when he sees a wall ahead of him?" Go into it like a battering-ram, or rise up to try and get over it half a mile before he gets to it? The bee does just what one would suppose—*i.e.*, rises up and flies over the wall when he gets to it. I guess "C. W. T." can see a street down which he wants to turn long before he gets to it, but he does not try to turn round the corner into it a hundred yards before he gets there! Then

there is in same issue a query on page 418, signed "E. T." If he is a light weight, I should like to have the gloves on with him for about fifteen minutes. And so with a good many more beginners; it would be better if they would think more and talk less. In a fit of temporary insanity I used to make a large exhibit at our village flower show, but the senseless questions asked by the mad crowd began to do me an injury; so now if any one stops me and begins to talk about the bees, I turn the subject and talk about what every one understands—the weather.—LORDSWOOD, *October* 16.

[In a footnote (not intended for publication) our correspondent adds to the above MS. :—"Please insert this; it will do good. You might make a few remarks underneath stating that you love vague queries—the more the merrier—*if you like!* Or say I pressed you very hard to insert it and you couldn't refuse. —LORDSWOOD."

As to its doing good, we hope it will. At the same time, our friend's footnote seems to us to convey a lurking suspicion that we don't quite believe in his seriously desiring to punch the heads of offending young querists after the fashion of the "P. R." And he is right. We fancy his viciousness is akin to that of the supposed crusty old bachelor when he said—"I *hate* children, bless their little hearts!" We are, however, pleased to find that our own effort (for it *was* an effort) to "let" E. T. "down lightly" is recognised and appreciated by so genial and courteous a writer as our correspondent "Lordswood."—EDS.]

A CORRECTION.

[2652.] Will you kindly note in your next issue a printer's error which occurs on p. 412 of your issue of the 15th inst., in the sub-head of your editorial anent "County Bee Associations?" The word "Surrey" should, of course, read "Sussex."—HENRY W. BRICE, *Hon. Sec. K.B.K.A., Thornton Heath, October* 16.

SENDING HONEY BY RAIL.

[2653.] Concerning the form of instructions for parcels of honey in transit, as advised in your leader of the 17th ult., I consigned twenty-four bottles of honey to the Great Western Railway Company for conveyance. They were well packed in two of Fry's cocoa boxes, wraps were placed around the boxes, and a label attached with "Honey, Fragile, this side up," in ¾-in. type. Alas, the parcel arrived, *weeping*. Four of the bottles were broken, and, on asking the company to consider the matter, they reply, "the parcel does not appear to have been marked 'Glass,'" neither was it charged at the higher rate applicable to such traffic.

Is this marking necessary, and what about the higher rate? The rate they *did* charge was over 13 per cent. of the total value, yet they "want some more."

As a forlorn hope I've forwarded them the BEE JOURNAL of the 17th ult., hoping that they will "read, mark, learn, and inwardly digest" the rates of carriage there given.—FREDK. P. SMITH, *Exeter, October* 17.

[If our correspondent attended to *all* the recommendations as to packing detailed on page 371, it is difficult to account for the breakage complained of. It should, however, be noted that the instructions carefully specify that the glass jar must be protected on all sides from the effects of concussion by "corrugated paper." If this was done and shown to the company, a good case for compensation would be made out. The word "glass" was purposely omitted by the sub-committee dealing with the matter in order to avoid the higher rate charged for glass goods.—EDS.]

"MANUFACTURED" HONEY.

[2654.] I have read with some interest the notes on honey adulteration, and desire to contribute my own experience in the matter. I have been a grocer's assistant for some ten years, and during that time have not sold a grain of natural honey. Brought up in the country originally, and amongst bees, I know the pure from the imitation, and you may imagine my astonishment when first entering the trade to find that what we sold labelled "pure honey" was a mere chemist's imitation. The chemist from whom my employers bought the stuff made no secret of its artificial character; indeed, we have had it sent into the shop while still *warm* from the process of manufacture. This stuff is sold largely in the town of —— as "Fine Honey," and is mostly bought for medicinal purposes. Genuine honey may be sold in some houses in the town, but I have never seen any myself. There is a splendid field in the manufacturing towns of Lancashire for the sale of extracted or super honey, but the spurious article must be grappled with. I may add that the artificial honey is sold at 1s. per lb. retail.—A GROCER, *Yorks, October* 14.

AN EXPLANATION.

[2655.] In last week's issue (2646, p. 416) I described my worst hive as being made on the "Cowan-hive" principle. This is hardly a desirable testimonial for the "Cowan hive." What I wish to make plain is that my hive has a loose body-box in a roomy outer case similar to the hive above named, but in all other particulars it may be, for aught I know, entirely different. I never was fortunate enough to possess the "Cowan hive."—LORDSWOOD.

Queries and Replies.

[1570.]—*Hive-making.*—I have kept bees successfully on a small scale for the past four years, having made my own hives on various plans for experiment. As I am now thinking of increasing my stocks, I wish to adopt one interchangeable hive throughout the apiary, and I shall feel extremely obliged if you can point out to me, through your valuable journal, any faults in a hive constructed as follows :—Proposed hive to be built to some extent on the "Cowan" principle ; outside and inside cases of 1-in. pine, made separately, inside cases to be fitted with guide strips to ensure an equal distance between the two all round. Air space to be 1 in. I propose to use a chamber below the stock-hive (or brood-chamber), constructed to take shallow-frames, to serve as a swarm-preventer in the working season, and, with frames removed, a ventilating chamber in winter, the front and back boards on which the frames rest inside to be fixed by strips to the outer case, leaving the sides of this of single thickness of wood. In these sides, and for the purpose of extra ventilation when needed, I think of cutting openings 10 in. by 2 in., covering these with wire cloth to prevent intruders. These ventilators will be fitted with sliding shutters, thus making them capable of being left wide open or quite closed, as occasion may arise ; the entrance to be cut in floor-boards 12 in. by $\frac{1}{2}$ in., and protected by porch at same angle of inclination as floor-board, and fitted with usual slides. With my short experience, I have every confidence in this hive for successful working ; but a word of advice from you will be most thankfully received.—Arthur Webber, *Soham, Cambs., October* 12.

Reply.—It is perfectly open to any one to try experiments by way of improving hives already in use, but seeing that the approved hives of the day are the outcome of long experience in the hands of practical men, it may be well to profit by the knowledge the latter have gained.

[1571.] *Recipes for Bee Food.*—On looking into your formulæ for food for bees in *Guide Book* (p. 163), I experience a difficulty which often crops up in the course of business, namely the meaning of the term "pint." The imperial pint which is the only *legal* pint is the measure of 20 oz. of water, but the old wine pint of 16 oz. is still used, and is meant in some recipes. In Scotland the capacity of the so-called pint bottle, or half bottle, which is about 12½ oz., is often meant when the term pint is used. In recipe No. 7 for autumn bee food, unless boiling is continued for a considerable time a very thin syrup will result, that is if imperial measure is used for water. Using five pints of 16 oz. each, a thick syrup will result, but which will not deposit the sugar (unless part of the water is boiled off) when kept in a cool place. (This I understand is what is required for autumn food.) 1. You might kindly state in Bee Journal which pint is meant ? Then for naphthol beta solution, the only methylated spirit the Excise authorities allow retailers even to stock, contains a considerable percentage of crude mineral oil which prevents it forming a clear solution with watery fluids, and causes it to give off an abominable odour resembling coarse paraffin oil. I certainly would not use it in bees' food, or in any other food. To get over the difficulty why not use "rectified spirits," which is the purest spirit made ? Of course the price is higher ; 6 oz., the quantity required for your recipe No. 1, would cost from, say, 1s. 2d. to 1s. 6d. As chemists are not allowed to sell rectified spirits in a form in which it might be consumed as an intoxicant, it will be necessary to get the chemist to mix the naphthol beta solution *before* handing it over. No chemist who wishes to stand well with his customers will object to do this whether the naphthol beta is supplied by himself or his client. As to bee-keeping I am only a beginner, this being my first season. I am endeavouring to act up to the advice given in your *Guide Book* and Bee Journal, to both of which I subscribe. There are a large number of bee-keepers here, the majority of whom use standard bar frame hives, and are on the whole fairly well up to date. The past season has been a fairly good one here, strong hives wrought on modern principles having done very well, but skeps very poorly as a rule.—John Emson, Chemist, *Biggar, N.B., October* 11.

Reply.—1. In all cases the fluid or standard pint of 20 oz. is meant. 2. Methylated spirit as sold by chemists contains so small a portion of methyl as to be entirely harmless to bees when used as directed in *Guide Book.* Use pure spirits of wine by all means if preferred or more convenient to obtain, but the methylated spirit was substituted in order to save cost and trouble.

[1572.] *Dealing with Weak or Queenless Stocks.*—I have two hives in my garden, left there by some one leaving the neighbourhood nearly six years ago, and which had not been touched until this summer. Then, through reading a few notes on bees, I thought I would examine them. I found the combs built one into another and very rotten, apparently moth-eaten. I then procured some new frames, and fitted six of them with half sheets of foundation, setting them in a new hive, which I put in the place previously occupied by old one. I next took out all frames from the latter, found the queen, and ran her and the bees into new hive. In about an hour the bees were quietly settled down with the queen. I then burnt all frames, comb and honey, with the exception of about four pounds which was built in top of hive. This I extracted and gave

again to the bees, which seemed a fairly strong lot. This was done about the middle of June last; nothing has been taken from them since, but they have only drawn four of the combs a little more than half way out, the other two being only just started. There is about enough honey in the six frames to well fill one frame. Kindly examine the piece of comb sent herewith (cut from one of the frames), and say if contains foul brood? If affected, I intend to burn the lot, disinfect the hives, and start again next spring. Is this the best thing I can do? This only applies to one hive, the other having frames and comb now which were left with them. It is very black, but built evenly and strongly, and at the present time is very heavy. I have not taken any honey from them. Any advice from you will be welcome. —NOVICE, *Somerset, October* 14.

REPLY.—Comb has never had brood in it at all, and now contains nothing worse than fresh pollen and honey. We are thus unable to say anything as to the stock being queenless or not. The condition of the old and moth-eaten combs when dealt with in June points to an aged and worn-out queen, and if this is the case, or if the bees are queenless, we should unite them to the other stock, as they are not now in condition for wintering, and it is too late to make them so.

[1573.] *Bees Refusing Foundation.* — I should be grateful for information from you or any of your contributors as to whether sections which have been in a rack over the hive, and which the bees have made no attempt to draw out into comb, though they have frequently passed over and through them, and have fixed the foundation firmly to the sides, will be preferred next year to freshly-made sections and new foundation? In some of my incompletely-filled racks I find several such sections, and in my ignorance I don't know whether to reject them as having been, perhaps, rejected by the bees, or to set special value on them as partially prepared for use by the bees themselves. If distasteful to the bees, is it likely that the foundation would have been secured by them to the wood? On the other hand, some of these unworked sections had completed sections on each side of them, as if there were some reason for passing them over. This is a question that is of interest to all of us whose experience is small. —BURLEY BEACON.

REPLY.—Unless the foundation fitted in the "refused" sections was known to be identically the same as that accepted by the bees in contiguous ones, we should suspect the quality of the foundation as the cause of refusal, and value it accordingly. In any case, however, the fact of bees having attached the foundation to the sides is no inducement for them to prefer such sections, but rather the contrary, seeing how promptly a bee will set to work and make secure anything it finds to be loose or shaky while passing over it; and work once begun is likely to be continued, other conditions being favourable. If a sample of the refused foundation had been sent on, it would have assisted us in forming a definite opinion.

[1574.] *Loss of Queens in "Wells" Hives.* — I made a "Wells" hive last winter, and in the spring put into it two moderate stocks, A and B, the former being the stronger of the two. In the middle of August I divided the two joint supers in order to prevent the bees from one side deserting in a body to the other. A few days later I took off the supers of stock B, and examined the brood nest. What did I find? Next to nothing! The queen was gone, the bees were gone—except about 100, many being drones—of honey there was none, except about 6 oz. The supers I should say, though fairly well filled with honey, were also deserted. Can you explain this? 1. Is it probable that the queen in B stock, having died from some cause (she was a prolific one), the bees were contented with their knowledge of another next door, and so did not trouble to raise one for themselves? Apart from the loss of this stock, the result was satisfactory, for I took 70 lb. of honey from this double hive, and the bees built out about thirty shallow frames of bar combs from strips of foundation. This result, no doubt, sounds exceedingly small when compared with the takings both from single and double hives in some places, but it has been a very poor season in this neighbourhood, and my average taking from thirteen single and this one double hive has only been 20 lb. There was an abundance of white clover in bloom during July and August, but the bees seemed to get nothing from it, though they had frequent opportunities to do so. 2. Does dry weather, not regular drought, prevent the plant from producing nectar later on, even though it has grown to a good size? In this immediate district honey has been thin and rather darker than usual this year. 3. What sort of honey is gathered from beans? 4. What would you do with stocks which, though unfed, have most of the combs unsealed now? 5. Are bees slower in sealing up one year than another? 6. Is there any reason for their apparent slackness this year? — E. CHARLEY, *Ince, Chester, October* 13.

REPLY.—1. There seems to be little doubt that bees occupying one compartment of a double-queened or "Wells" hive are less eager to replace a lost queen than those of ordinary single-queened stocks. This is shown by the comparative frequency with which they join forces with their next-door neighbours under such circumstances as are detailed above. 2. It is a fact well known to bee-keepers that white clover never yields anything like so freely of honey to bees as in the month of June, no matter what the other conditions may be. This year, however, the return from that queen of bee-flowers has been very small indeed. That the want of

rain in May and June was the main cause of this failure is quite certain. 3. Bean honey is usually brown in colour, and somewhat coarse in flavour. 4. If they have more combs than the bees cover we should remove some of those containing only unsealed food. 5. Yes. In such weather as has been experienced for many weeks past, bees are very unwilling to seal the food unless crowded into a small space. 6. Only the reasons given above.

[1575.] *The Danger of Buying Stocks of Bees.*—Will you kindly inform me if the enclosed piece of comb has "foul brood" in it or not? The colony was purchased from a bee-keeper in the neighbourhood last May by my sister, who is a novice as well as myself. At time of purchase the bees occupied two chambers, each holding ten standard frames, and were guaranteed very strong. The hive was not interfered with until end of honey flow, when the upper ten frames were removed and yielded about 22 lb. honey. On account of the bees being exceptionally vicious, the stock hive has never been properly examined until now. I managed to get a glance at the frames in the middle of August, and I saw, as I thought, plenty of capped brood and but little stores. Stimulative feeding was resorted to until middle of September, when rapid feeding was started. To-day being warm I prepared to pack the hive for winter. I examined all the combs and found capped brood-cells as enclosed on six frames. All combs seem to be as old as the piece sent. If, as I suspect, the bees are diseased, I suppose they had best be destroyed, considering the season, seeing that I have no spare hive or combs by me, and the bees in a second hive are quite strong enough to winter well as they are. The second hive seemed perfectly healthy, and I might mention it was safely packed before the suspected hive was opened.—M. W. S., *Slough*, October 14.

Reply.—Comb is badly affected. Moreover, from its appearance the disease seems to be of long standing, and as six of the ten frames of comb are similarly affected to the sample, we should burn the lot as by far the best course to take. Without casting any aspersion on the seller—who may have believed the stock to be quite healthy in May last—this purchase of a colony of bees, without examination at the time, furnishes another instance of the risks attending such a transaction without a guarantee of the healthiness of the bees.

[1576.] *Treating Diseased Stock in October.*—I herewith send you a piece of comb which I take to be affected with foul brood. On examining the hive from which it is taken on Saturday last with the view of packing up for winter, I found comb in this condition. When the same hive was inspected in the middle of September, I saw no trace of foul brood. There is sufficient bees to cover eight frames. I have taken out all combs containing brood and destroyed them, but as it is so late what else would you advise me to do? Should I take out bees and put same in skep for forty-eight hours, thoroughly clean and disinfect hive, and put them back into hive with frames of foundation, having destroyed quilts, combs, &c.? Or would you advise me to wait till the first opportunity in spring? I am sorry to say I neglected to put in naphthaline when I last examined them, the previous dose having completely evaporated at the time. Your advice in next issue will be highly esteemed by W. B., *Dorking*, *October* 13.

Reply.—Comb is decidedly affected with foul brood, and it is altogether too late to attempt a cure by dealing with bees in the manner proposed. In view, therefore, of the disease being but a recent outbreak, as stated, we should simply place a cake of soft candy (medicated) below quilts, keep a close watch on the earliest hatching brood in spring, and hope for the best. As no mention is made of any other stocks, are we to suppose the above to be your only hive?

PRESERVATION OF COMB AND RENDERING OF WAX.

BY HON. R. L. TAYLOR.

(*Concluded from page* 420.)

After the preservation of all comb that promises to be of value as such, there will remain, as intimated at the outset, comb of different descriptions that is of value only for the wax it contains, and still of far too much value for that to excuse its neglect or loss. Conveniences should always be at hand in every apiary for the collection and preservation of all bits that may be trimmed from combs, frames, or honey-boards. Such pieces are especially valuable, for they are composed almost entirely of wax, and the rendering of them is easy. These and all other comb to be rendered should be kept away from moisture and light until that operation can conveniently be attended to.

The rendering of brace and burr combs, and of other comb in which no brood has been reared, since they contain nothing to prevent the wax readily separating from the residue, is a comparatively simple matter, but with that of a comb full of cocoons and bee-bread the case is different, and yet, when the proper course is understood, one knows what to expect, and the operation is not a trying one. For that class of comb from which cocoons are absent, almost any method (except the one often recommended, of tying it up in a bag and then boiling it to make the wax exude from the bag) will answer tolerably well. If one is already provided with an ordinary wax-extractor or with a solar wax-extractor it may well be used, but if I were without both I should hardly go to the expense necessary to procure either. At best, the solar extractor is cumbersome, can be used only about two months in the year, and is of no practical

utility in rendering comb containing cocoons. As to the ordinary wax-extractor, the best I can say for it, after testing it thoroughly for ten years or more, is that it does tolerably well what can be done much more quickly and easily with an open vessel.

In the absence of extractors, if the comb to be rendered consists entirely of that without cocoons, it may be put on the stove in almost any kind of a vessel that will stand fire, one of tin or copper being preferable to one of iron, on account of the dark colour which the latter imparts to the wax, and brought to a "boil," of course, putting in plenty of water before placing the vessel over the fire. When the wax is all thoroughly melted, let it cool, either upon the stove or in as warm a place as possible off the stove. When the wax is cold it may be lifted off almost free of foreign matter, and afterwards treated by a further process described later to fit it for market.

Everyone who has anything to do with the heating of wax on a stove should be thoroughly impressed with the fact that, without unflagging watchfulness, the operation is attended with a good deal of danger. Boiling wax is very liable to boil over, in which case it runs at once into the fire-box, takes fire, and almost at once the stove is a mass of flames, and, of course, unless prompt preventive measures are taken, the wax boils over faster and faster, and the house itself runs an extreme risk of destruction. Only a cool, careful person should have charge of such work, and he should never be out of sight of wax boiling, or likely to boil, at least, not until he so thoroughly understands the details of the process that he knows what, within the possibilities, may happen while he is gone. Boiling wax may be kept from running over in most cases by lifting it with a dipper and pouring it back from a little height, but to meet all emergencies adequately, plenty of cold water should always be at hand, with a dipper. Boiling wax is easily controlled by adding cold water.

For the rendering of combs containing cocoons, and that without cocoons need not be excluded, I think, after trying every imaginable method, except that by the use of steam from a boiler, that there is no process for the average bee-keeper equal to that which I now use. It is as follows:—

I provide myself with utensils—a rendering-tank or kettle, a perforated tin vessel, such as is used inside the ordinary wax-extractor, and a tin scoop, such as is used by grocers for the purpose of handling sugar, &c. For the first I use a circular tin vessel, 20 in. in height and 24 in. in diameter, which is as large as the top of the stove I use in my honey-house will accommodate, but neither the shape nor size is material, except so far as the amount of work to be done requires. An old wash-boiler would answer well enough for most apiaries. The utensil of perforated tin is 8 in. high and 10 in. in diameter. The scoop I use would hold about a pint, but its very important characteristic is its sharp edge at the mouth, of one thickness of unfolded tin.

When ready for the operation, I place the tank, about one-quarter full of water, on the stove, in which I make a good fire, which, of course, is to be kept up as the necessities of the case may require. More water may be put into the tank at the start if the combs have not been prepared by soaking in water, which it is better to do, as that tends to prevent the cocoons taking up and retaining the wax. I think it is an advantage also to crumble the combs quite finely, which may be done readily if they have been stored where the temperature is quite low. The comb is then put into the tank, which will accommodate that from about 100 Langstroth frames, or 170 Heddon frames. When the contents of the tank boil, and the wax is all thoroughly melted, it will be found that there is room in the tank for considerable more water. This is now added to the extent of about a pail full, which must be cold and handled with a dipper so that it may be done gently and somewhat gradually.

At this point the boiling has ceased and the surface of the lately boiling comb somewhat hardened, so that it retains a considerable part of the added water on the surface. Now I watch it, keeping up a moderate fire. In a few minutes the pure wax is seen oozing through the crust and floating away on the water. More water is added now in sufficient quantities to make the rising wax harden so that it may be removed with the hand. This is not a very material part of the operation, but it is utilised because in any case the water must be added. During the adding of the water, which must be to the convenient capacity of the tank, with a little care, about half the wax the comb contains may be removed in this way in an almost pure condition.

When sufficient water has at length been added, I let the whole come again to the boiling point. Then I put the perforated vessel into the mass at the point where the wax appears to be gathering largely, turning it about and working it down until it contains a few inches in depth of the liquid, or I put a weight upon it and let it settle and stand a few minutes for the wax to gather, then, with the scoop, which must be of a size to work freely inside the perforated-tin can, I dip off the melted wax from the liquid. This is best done by settling the back end of the scoop and letting the surface wax run in over the sharp edge in front, which is depressed so as to get the wax without too much of the water, which is dark, while the wax is transparent. The perforated can is operated in this way in five or six different places more or less according to circumstances when most of the wax will have been removed. There is generally no particular object in working it too closely, for, at best, there will be a little of the wax that cannot well be removed.

I now let the mass get cold, when the crust

of the "bagasse" will be found to contain the wax which remains. This is carefully removed and laid aside, to be added to the next "batch" at about the time it first comes to the boiling-point. This process is repeated until all the comb is reduced. A cover is provided for the tank and put in use whenever desirable.

After this is all accomplished comes the final process for clarifying the wax from the remaining impurities. For this purpose a smaller melting vessel is desirable. I make use of an old wash-boiler. I place the boiler, about half full of water, over the fire and add the wax, or as much thereof as I safely can, and let it melt and boil. Now, while it is very desirable not to let wax boil more than is necessary, on account of the injury done it thereby, yet some boiling is necessary in order to put the impurities in such condition that they will readily settle below the wax. The proper stage is known from the transparency of the wax, which may be discovered by lifting a little from time to time in the scoop. When the wax thus raised is clear, I let the fire go down and out. In the meantime the room is made as hot as possible and kept so.

The wax is left on the stove, and sometimes the vessel containing it is wrapped and covered with several thicknesses of paper. All this for the purpose of retaining the heat, so that the wax may be in a liquid state as long as possible, to give the impurities plenty of time to settle into the water below. On the same account I am careful not to agitate the wax in any way. If proper care has been taken the wax will remain liquid for several hours, but, of course, the length of time will vary according to the amount of wax, the size of the vessel, and the warmth of the room.

When the temperature of the wax falls to about 155 deg., or, in case no thermometer is at hand, when the first signs of its beginning to harden at the edges appear, I am prepared with tin milk-pans to receive it, and with the scoop to dip the wax. This is done with care, that the refuse below may not be unnecessarily disturbed, and yet with speed, that the now rapidly falling temperature of the wax may not interfere with the completion of the work. All but from half an inch in depth of the wax may be dipped without greatly disturbing the settlings, and when it is seen that any of them adhere to the scoop the dipping is stopped, and the rest of the wax is left to harden where it is, when it is lifted out in a cake, and what little refuse adheres to the lower side may be readily scraped off, and the whole batch be in good condition for market.

In this process the skimming off of such impurities as rise to the surface just as the wax begins to boil should be attended to.

If the course indicated be familiarised and practised, it is confidently believed that the rendering of wax will no longer be considered a difficult or a disagreeable operation.—*Bee-keepers' Review (American).*

Bee Shows to Come.

November 12.—In connection with Ludlow Fruit and Chrysanthemum Society's Exhibition. Two open classes. Entry fee, 1s. each class. Schedules from J. Palmer, 17, Brand-lane, Ludlow. Entries close November 5.

November 18 and 19, at Newcastle-on-Tyne.—Northumberland and Durham B.K.A., in connection with the Horticultural Society's Chrysanthemum Show at the Town Hall. Three open classes. Entry fee, 1s. each class. Schedules from J. N. Kidd, 29, Windermere-street, Gateshead. Entries close November 13.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

T. A. G. (Co. Dublin).—*Exhibiting Honey in Section Crates.* — 1. Sections are never staged at shows in racks as removed from hives, and it is no doubt intended that they should be shown in "crates" as stated. To call the rack in which the sections are worked on the hives a section "*crate*" is quite a common error on the part of bee-keepers, but it is no less an error for all that. A crate is for storing the sections in, or for sending them to market, and the appliance used for holding the sections while being filled by bees is a section *rack*. 2. We should re-liquefy the honey carefully before showing it. To do this, lay a couple of short strips of wood about ½-in. thick on the bottom of a pan, set the jars on these, and add warm (not hot) water, then set the pan by the side of a fire and heat gradually to about 100 or 120 deg. Fahr., and leave it so till the honey becomes quite clear and bright. Don't heat it over 120 deg. Do this a week or more before the show.

ENQUIRER (Kingsbridge). — *Foul Brood.*—Comb sent is badly diseased, and notwithstanding that "the hive otherwise seems quite healthy, and is very strong," as stated, we should advise its destruction if there are healthy stocks contiguous to it.

J. R. AUBRY (Woking).—*Candy-making.*—The candy sent has been boiled too long, and in consequence it is "dry and mealy" instead of being "soft and buttery" in consistence, otherwise it would be a very good candy.

T. K. (Mid-Northants). — Sample is fair in quality, but cannot be considered a good honey for table use.

T. H. BURGESS (Exeter). — There is no "Trophy Class" at this year's Dairy Show.

Communications from C. J. COOKE, F. CROCKER, WM. RUSSELL, and "A DISAPPOINTED COTTAGER," together with several queries, are in type, but unavoidably held over till next week.

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION.

The monthly meeting of the Council was held at 105, Jermyn-street, S.W., on Thursday, October 22. Present :—T. W. Cowan (chairman), E. D. Till (vice-chairman), Hon. and Rev. H. Bligh, Rev. R. Errington, Major Fair, H. W. Brice, W. Broughton Carr, H. Jonas, J. H. New, and T. I. Weston ; with Rev. W. E. Burkitt, J. M. Hooker, A. J. Pugh (ex officio), and E. H. Young, secretary.

The minutes of the previous meeting were read and confirmed. Two new members were elected as under :—Rev. Alfred Long, St. Saviour's Parsonage, Shepherd's Bush ; Mr. J. W. Spencer, Church House, Atworth, Melksham.

The Finance Committee reported that they had examined the accounts to October 15, and compared the receipts with the payments to the banker. They recommended payment of accounts amounting to £20. The report was adopted.

Mr. Cowan, on behalf of the Education Committee, reported that the examinations for the Association's Second-class Expert Certificates had been fixed for November 20 and 21, and will be held in various centres in which the candidates are resident.

The report of the Foul Brood Committee, also presented by the Chairman, stated that the Technical Education Committee of the Lancashire County Council had been actively engaged in the collection of statistics showing the districts affected by the bee-pest, and would welcome any information that bee-keepers might be able to furnish on the subject. The object was to obtain evidence of the need of such a Bill as it was proposed to introduce into Parliament next session, when it was hoped that Lord Thring would undertake to take charge of the measure.

It was reported that the Manchester Local Prize Fund Committee had voted a sum of £50 to the British Bee-keepers' Association for extra prizes in the Bee and Honey Department of the "Royal" Show at Manchester, 1897, subject to the approval of the Prize Schedule by the Council of the R.A.S.E.

Report of Conversazione will appear next week.

THE DAIRY SHOW.

The twenty-first annual show of the British Dairy Farmers' Association was held in the Royal Agricultural Hall, London, on the 20th inst. and three following days, and the exhibition throughout was a complete success. The total entries numbered 7,541, being an increase of 1,433 over those of last year, and by far the highest yet recorded. The dimensions of the present show make it a record one, and formed a very appropriate condition of things in view of the Dairy Show having this year attained its majority. The bee-department was also very satisfactory, bearing in mind the very moderate season for honey in this country. A total of 167 entries (46 more than in '95) made up an exceedingly creditable display. After being for several years relegated to a rather out-of-the-way and not too bright-looking corner in the gallery, the bee section of the show was this time located in the spacious new annexe to the building on the ground floor, and the change will in the end be a most advantageous one. There is no lack of room and plenty of light, and if it can be secured as a permanent home for the honey show, and that of its kindred industry of dairying, it will be sure to become popular.

"Milk and honey" have been coupled in defining a land of plenty, as all of us know, since the patriarchal days recorded in Holy Writ, and, whether intended or not, a peculiar appropriateness occurs in the combination.

The show itself inaugurates a new departure in the introduction of classes for dark liquid honey, for heather sections, and extracted heather honey, and a class for the "most interesting and instructive exhibit of any kind connected with bee-culture." The number of prizes being proportionally increased. No doubt when these classes become more generally known, the number of entries in them will be considerably increased, seeing that, by specially providing that dark-coloured honey and heather honey should each stand on their own merits, it brings in a set of exhibitors who, it must be confessed, have not in previous years had full justice done their products. Scottish and north-country bee-men generally should not miss the opportunity in future years for bringing their special strong point—we mean, of course, their heather honey—to the front at this important Metropolitan show. It means *business*, and few of us can afford to lose sight of that desideratum. The same may be said of the other new class, which includes such immensely useful things as honey vinegar, mead, honey confections, &c. There was fair cause for satisfaction in the response made by exhibitors in the new classes, but we hope to see them increased to treble the number of entries at the Dairy Show of '97.

The other classes were well filled, no fewer than fifty-two exhibits (and such exhibits!) competing in the class for twelve 1-lb. jars of light-coloured extracted honey. Of these it is not too much to say that a dozen prizes would have been a more appropriate recognition of the well-earned merits of the best exhibits than the four to which the awards were limited. To see so many extra-fine samples of liquid honey in such a season as this has been, makes one wonder, but there they were ; and the judges, by affording the best recognition they could to nineteen of the exhibits, show the excellence of the whole class.

The section class was also very good, though

hardly equalling the last named one. But when we are to regard '96 as exceptionally notable for scarcity of well-finished sections, the best of those staged last week were wonderfully good samples. More than one half of the total entries in this class received an award of some kind, and this renders unnecessary any further comment on the class as a whole.

It would be unfair to speak of the display of heather honey, seeing that only thirteen lots were staged in the two classes. The prize samples were, however, very good heather honey, though the sections could hardly be considered up to high class Scotch standard.

Granulated honey produced twenty-two entries, and made up a display excellent in quality as once more shown by ten exhibits receiving awards.

We were also very pleased to note the sustained interest in the classes for extracted honey in bulk. That for not less than 1 cwt. producing nine entries, and the ½-cwt. class eleven. The requirements as to package were well attended to by the exhibitors, and the honey as a rule was very good indeed—quite the quality we like to see representing British honey for the wholesale market.

Only one class remains for a word of notice, viz., that for Interesting and Instructive Exhibits connected with Bee-Culture, in which there were thirteen entries, most of which were "interesting and instructive" in the highest sense, and well merited the awards given.

The extreme pressure on our space this week must be our excuse for so briefly noticing the exhibits, but we hope to again refer to some points of interest connected with the dairy show in an early issue.

Mr. W. Broughton Carr and Mr. J. M. Hooker officiated as judges, and their awards are appended below :—

AWARDS.

Twelve 1-*lb. Jars Light-Coloured Extracted Honey.*—1st, Thos. Blake, Stockbridge, Hants; 2nd, J. Sopp, Wallingford, Berks; 3rd, Rev. A. Milne, Whitehouse, Aberdeen; 4th, W. H. Woods, Hemingford Grey, Hunts; v.h.c. and Reserve No., H. W. Seymour, Henley-on-Thames, Oxon; v.h.c., G. Slater, Basingstoke, Hants; Wm. Woodley, Newbury, Berks; J. Johnson & Son, Soham, Cambs; and H. Rowell, Winchfield, Hants; h.c., S. Woodward, Kingsley, Cheshire; F. Sandall, Bishops Waltham, Hants; H. O. Smith, Louth, Lincs; G. T. Dunkley, Harpenden, Herts; E. C. R. White, Romsey; R. Lockwood, Nazeing, Essex; and W. H. Drinkwater, Chinner, Oxon; c., E. D. Till, Eynsford, Kent; Abbot Bros., Thuxton, Norfolk; and J. H. Howard, Holme, Peterborough.

Twelve 1-*lb. Jars Dark-coloured Extracted Honey.*—1st., Rev. A. Milne; 2nd, J. R. Truss, Ufford Heath, Northants; 3rd, Tom Sells, Uffington, Stamford; 4th, A. Blake, Westerham, Kent; v.h.c. and Reserve No., A. J. Carter, Billingshurst, Sussex; c., F. Sandall; Elvey Smith, Southfleet, Kent; Abbot Bros.; E. Ainsley, Bishops Waltham, Hants; and Mrs. Bury, Nazeing, Essex.

Twelve 1-*lb. Jars Extracted Heather Honey.*—1st, Donald McGeachy, Pennyfair, Oban, N.B.; 2nd, T. H. Jackson, Kirby Moorside, Yorks; 3rd, Wm. Dunning, Helmsley, Yorks; v.h.c. and Reserve No., J. and T. Henderson, Kilmacomb, N.B.

Twelve 1-*lb. Sections.*—1st, Jesse Garratt, Meopham, Kent; 2nd, A. W. Canning, Ownham, Newbury; 3rd, H. W. Seymour; 4th, Wm. Woodley; h.c., R. Brown, Somersham, Hunts.; F. Sladen, Ripple Court, Dover; Lieut.-Gen. Edwards, Farningham, Kent; W. H. Woods; and J. Sopp; c., W. H. Woods; H. W. Seymour; E. Ainsley; and Harry Gager, Basingstoke.

Twelve 1-*lb. Sections Heather Honey.*—1st, John Macdonald, Kingussie, Aberdeenshire; 2nd, Donald McGeachy; 3rd, Wm. Dunning; 4th, Robt. Ness, Helmsley, Yorks.

Twelve 1-*lb. Jars Granulated Honey.*—1st, R. Brown; 2nd, R. Godson, Tothill, Lincs; 3rd, J. H. Howard; v.h.c., and Reserve No., H. W. Seymour; h.c., Elvey E. Smith; Rev. W. Handcock, Hampton Hill, Middlesex; c., H. O. Smith; W. H. Woods; Robt. Ness; and E. Drinqbier, Dover.

Extracted Honey, not less than 1 *cwt.* (*in* 7, 14, or 28-*lb. Commercial Packages*).—1st, Rev. A. Milne; 2nd, R. Brown; 3rd, J. H. Howard; v.h.c. and Reserve No., E. Longhurst, Longfield, Kent; h.c., H. W. Seymour and W. P. Meadows; c., A. Mayell, Bradwell-on-Sea.

Extracted Honey, not under 28 *lb.* (*In Packages similar to Preceding Class*).—1st, W. H. Woods; 2nd, Rev. A. Milne; 3rd, J. H. Howard; v.h.c. and Reserve No., H. W. Seymour; v.h.c., E. C. R. White and H. W. Seymour; h.c., A. J. Carter and J. Sopp.

Instructive Exhibits Connected with Bee Culture.—1st, H. W. Seymour (sections in various stages, samples of mead, wax, &c.); 2nd, Percy Leigh, Stoke Prior, Worcester, (samples of honey from various counties, sections from comb foundations to sealed honey, photos, &c.); 3rd, E. Longhurst (wax, mead, vinegar, &c.); v.h.c. and Reserve No. (improved hive), C. Redshaw, South Wigston, Leicester; v.h.c., Dr. Percy Sharp, Brant Broughton, Lincs (lantern slides), and E. D. Till (acetified honey syrup); h.c., R. Brown (wax, vinegar, mead, &c.); c., C. Redshaw (hive with folding legs).

THE HUCKLE MEMORIAL FUND.

At the conversazione on the 22nd inst., the Chairman (Mr. Cowan) took occasion to say a few words regarding the above fund, and referred to the circumstances in which the family of the late Mr. Huckle are now placed. As a result, we are enabled to announce some additional donations, and in closing the list of

contributions from BEE JOURNAL readers we thank all who have helped to swell the amount, which will now be forwarded to the local committee at King's Langley, in whose hands the matter now remains.

Amount previously acknowledged...	£11	17	6
H. Jonas	1	0	0
A. W. Horlick	0	5	0
E. W. Till	0	5	0
E. W.	0	5	0
R. Ness	0	2	6
R. Brown	0	2	6
A. J. Pugh	0	2	6
W. J. Anstey	0	2	6
Wood & Taylor	0	2	0
H. B. Moreland	0	2	0
G. Wells	0	2	0
J. R. Truss	0	2	0
G. Newman...	0	1	0
R. Peters	0	1	0
W. G. Moore	0	1	0
F. Walker	0	1	0
Total	£14	14	6

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal,' *Office*, 17, *King William-street, Strand, London. W.C.*"

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

THE PROPOSED KENT AND SUSSEX B.K.A.

[2656.] Your Editorial last week embodies a resolution of the Surrey B.K.A., of which our association has yet received no formal intimation. Your readers ought to have a line from me that they may be able to understand the true position of affairs. In the first place, the Surrey B.K.A. are scarcely correct in saying that Surrey is more nearly connected with Sussex by adjoining territory than is Kent. It will be seen by reference to the map that a line running due north and south divides Kent on the east from Surrey on the west, and also cuts Sussex in two equal parts. Kent has therefore as much Sussex borderland as Surrey. Kent has for years been endeavouring to promote an *independent* association for Sussex. Two years since, the Council and several members of the Kent B.K.A. were at very considerable expense, as correspondence and advertisements in the Tunbridge Wells, Lewes, and Brighton papers will amply testify. (Not *a thought* at that time of any amalgamation. Kent even refused subscriptions offered at Tunbridge Wells from Sussex men.) The Kent B.K.A. convened a meeting in the Pump Room at Tunbridge Wells, and invited Sussex men to a conference and lecture there, expressly to urge them to form an *independent* association. Having done all that lay in our power to stir Sussex to action, and it being clear that Sussex bee-keepers are not likely to start an association on their own account, Kent feels justified in suggesting an alliance for the common weal of bee-keeping in order that Sussex might not be standing alone in the midst of other counties that have associations.

The Kent B.K.A. has also been at heavy charges this summer in holding a show at Eastbourne, which was visited by a large number of bee-keepers from all parts of Sussex. All were there interviewed by members of the Kent Council, and we have since received at least sixty letters from Sussex bee-keepers approving the proposed alliance, proving that the desire for associated effort on the part of Sussex is unquestionable. Kent has shown genuine zeal in regard to Sussex, and Sussex appreciates it.

Kent has received from Sussex most encouraging support at her exhibitions. Kent has no desire for aggrandisement, the movement has come about naturally and gradually, after some years of effort on the part of Kent to benefit Sussex.

It should be remembered that no bee-keeper in any county is in bondage, nor is he compelled to join any association. If bee-keepers in Sussex like to join Surrey they are perfectly free to do so.

As to dividing the County of Sussex into two, her bee-keepers will refuse to be thus portioned out. Surrey should wait until she is asked before talking of incorporation. Kent says "*All* Sussex or none." It reminds me of the case of the two women who claimed the same child. One woman accepted the judge's behest that the child should be cut in two, the other (the mother) rightly refused! I feel quite sure that the Surrey B.K.A. Council do not really know how Kent has for some years worked steadily and at very considerable cost to help Sussex bee-keepers. Surely Surrey would not ask Sussex bee-keepers to become a nameless part of their own association! Besides, the very composition of the Surrey B.K.A. precludes them from spending Surrey County Council money on the county of Sussex. —HENRY W. BRICE, hon. sec., K.B.K.A.

AN EASILY MADE SUPER-CLEARER.

[2657.] Bee-keepers who have used a super-clearer for removing bees from the upper stories of hives before taking the honey will

readily admit that appliances of this kind are of great value, if properly constructed. Metal traps with steel springs are generally fixed in the centre of the super-clearer, which allow the bees to leave the top of the hive, and the springs prevent them from returning again. These metal traps may be bought from the dealers for a few pence ; but they are liable to become rusty. Although the trap described below is not as neat as those made of metal, it has the advantage of not being liable to rust away, and of being easily made by those of the bee-keeping fraternity who care to make their own appliances.

Fig. 1.

To make the super-clearer, first prepare a board $\frac{3}{8}$ in. thick, and large enough to cover the frames in the body-box of the hive. Cut a hole in the centre about $1\frac{1}{4}$ in. square, and bevel away the wood underneath on two sides of the hole, as shown at A A, Fig. 1. Next prepare two wedge - shaped pieces of wood, as at A A, Fig. 2, and two pieces shaped as at B B, Fig. 2. Take a short piece of common cane, and pare it down with a knife to form a tongue about $1\frac{1}{2}$ in. long, $\frac{1}{4}$ in. wide, and a little thicker than a piece of paper. This forms the spring, and is attached to B with a couple of tacks, as shown at C, Fig. 2. The other side is then fitted in a similar manner, and the bottom of the trap covered with a piece of wire cloth, as denoted by the black line B B, Fig. 1. Fig. 3 gives a general view of the trap before the wire cloth is tacked on.

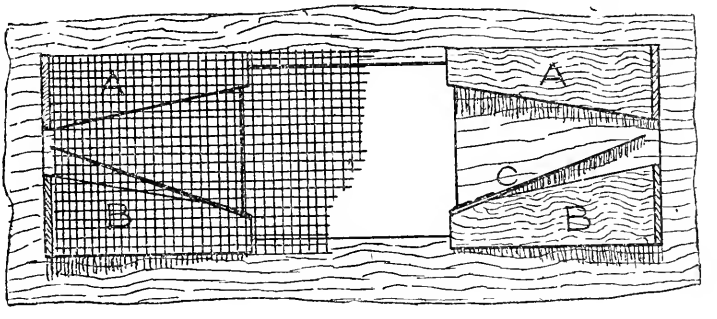


Fig. 2.

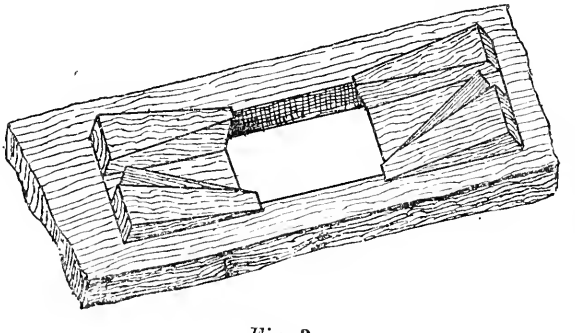


Fig. 3.

To prevent crushing bees, when the clearer is placed on the top of the frames, a margin is nailed round the edge of the super-clearer about $1\frac{1}{2}$ in. wide and $\frac{3}{8}$ in. thick.

I have used a clearer constructed on this principle this season with success, and find that the cane springs work very effectively. It is necessary to allow a full $\frac{1}{8}$ in. opening between the spring and the side of the passage, or the bees will not attempt to pass through the opening, as may readily be seen by brushing a few bees into an empty section-case and placing the super-clearer on the top. The trap could be fitted with a greater number of springs if it was thought that by doing so it would make the exodus of the bees from the upper story more rapid, the clearer I have used this season being fitted with four openings. — F. Crocker, *Derby, October* 12.

[Our experience of super-clearers leads quite surely to the fact that one exit does the work of clearing the super more effectually than any increased number.—Eds.]

SUGGESTIONS FOR THE "ROYAL" '97.

[2658.] Happening to hear at the meeting at Jermyn-street, on Thursday last, that the Local Committee of the "Royal" show, to be held at Manchester in 1897, has made a substantial grant to the Bee-keepers' Association, in addition to the usual grant from the R.A.S., I feel, as an old "showman," that I cannot let the matter pass in silence, so herewith I beg to lay before your readers my ideas regarding the next "Royal" show.

I would retain the classes for collections of appliances, also those for hives; but I would not pander to deceiving either the public by the aid of the manufacturer—in the matter of price—or allow a hive which is honestly worth 20s. to be exhibited in a class for the best hive at 15s. This I have considered a bar to honest men competing for some years past. Then I would have the classes for bee-keeping appliances in "sections," say a complete outfit for extracting; *i.e.*, extractor, uncapping knives, stove and vessel to heat the knives, also an uncapping vessel, disb, or pan, &c., and a similar class for the necessary requisites for the production of comb honey.

Now for the honey classes. First, the "County Trophies." This, I think, has received consideration at the hands of the B.B.K.A. Council; but, not being in their secrets, I have a free hand in expressing my views on the matter. These exhibits ought to be representative of the county as far as possible, and should in my opinion be confined to a certain limit both in quantity and in height in staging, &c., and, if possible, in about the same proportions of comb and extracted honey in the bulk of each exhibit.

Then I would suggest a trophy class for individual honey producers, say, the limit for quantity to be confined between 150 lb. and 200 lb., not below one nor above the other. This class would demonstrate the growth of the industry if our large producers will make an effort to reserve the necessary quantity—or even more than the required quantity—as I should strenuously advocate exhibitors in this class being allowed to sell from a reserve stock if they felt inclined to do so during the show, so long as they did not interfere with or destroy the proportions of their exhibit. The Show Committee will, in my humble opinion, make a palpable mistake if the county trophy class is allowed to swallow up individual enterprise.

The work of staging the county exhibits and attendance on same during the Show will entail considerable expense on the several counties competing, and the financial position of some will be somewhat strained unless a special fund be raised to meet the Show expenses. Then, again, after the Show, who is to receive the prize money? The exhibitors, who have had no trouble beyond holding their 10, 20, or 30 lb. of honey and sending same to the secretary of their Association or the County Association, which has paid the entry fee, carried, staged, and acted as custodian of the exhibit during the Show, and sold or returned same to the individual owners?

Then should follow the mead, vinegar, and confections classes, on as large a scale as possible. 'Tis quantity as well as quality that strikes the beholder.

Then I would continue the small classes for 1897, also 1896 sections, also for extracted honey, 1897, and same for extracted, both light and dark, crystallised 1896; also heather-honey in bottles, but not in sections, as I believe heather-honey will be crystallised before next June. No society having the advancement of bee-keeping in view should encourage the staging for prizes, or offering for sale, crystallised honey in the comb. The fact that honey in such condition has been sold in the past, coupled with poor super foundation, has been the means of reducing the demand for comb honey more than anything else I know of.—W. WOODLEY BEEDON, *Newbury.*

[We are quite sure that Mr. Woodley is unaware of—or else has overlooked—several important facts connected with the Royal Agricultural Show of next year, or he would have known at once how utterly impossible it is to even think of being able to carry out the suggestions made in above communication. In order, therefore, that the matter may be fully understood by all readers, and thus prevent further uncertainty or misconception, we betray no secrets of the B.B.K.A. Council in making plain a few facts as follows:—1. The local fund of £50 has been placed at the disposal of the B.B.K.A. Council only upon certain conditions, which conditions were to be carefully observed in framing the schedule. 2. After some effort, the wishes of the B.B.K.A. and of bee-keepers generally were acceded to, so far as securing an approximate weight of 300 lb. for each county trophy. 3. An additional "trophy class for individual honey producers," and the several other extra classes mentioned, are out of the question, there being unfortunately no funds available for prizes in such classes. 3. The rules of the Royal Agricultural Society prohibit the removal of goods from the show-benches until the close of the show. 4. Beyond paying the prize money as usual to the person who makes the entry, the B.B.K.A. Council can exercise no control over it.—EDS.]

SPARING THE EDITORS!

[2659.] Dear "Lordswood,"—When you were a wee, small laddie, wasn't it one of your chiefest delights to sit on your father's knee and puzzle the poor old gentleman with unanswerable questions? According to family traditions, this is how I used to occupy the spare hours of *my* "Dad"; so that perhaps accounts for my sending such a "vague query" to our long-suffering Editors the other

week. As it was, I assure you, dear "Lordswood," I *did* give the subject "a moment's thought," and the result of that "think" was about the same as your own rather gratuitous and very unexpected reply on p. 424 in last week's issue. But the question referred to was asked me by a native of Guid auld Scotland, "land o' cakes," long prayers, strong "whusky," and first-class experts at "heckling;" and how could a poor, weak Southerner like me reply to the awful cross-examination I should have undergone from that canny Scot without I had some good authority wherewith to quell him?

Now, dear "Lordswood," seeing that you so kindly answered my thoughtless question last week, and as I want to "spare the Editors," I should feel very much indebted to you if you could manage to shed the light of your practical experience upon these "stickers," for they are past me altogether:—Why was it that after my dad had been stirring up the "happy home" because one of his favourite slippers had been discovered amongst the ashes of the dust-bin (placed there by his youngest son out of revenge for a certain use to which that slipper had just been put), and the old gentleman had gone forth into the garden to let his wrath evaporate on the cool evening air—why was it, I say, that just at that moment one of my special black bees, warranted to sting well and make things hum generally, should happen to have been passing, and seeing that something was wrong, should forthwith proceed to mend matters by buzzing about the paternal ears, making the owner thereof do a "double quick" for the protection of the scullery-door? Was it because two of a nature never agree? Then, again, why was it that when my youngest brother aforementioned, aged thirteen years, was hopping around his dear little sister, laughing and jeering at her because she was trying to escape the persistent attempts of a huge bumble-bee to settle on the bunch of flowers she carried in her hand—why was it, I repeat, that just then another of those "extra speshuls" should alight on the young scamp's nose, and insert a very warm "tail" into the tip thereof? Was this a case of making both ends meet?

It is for replies to such "vague queries" as these that my mind yearns now as it used to yearn in the days of yore, and if your correspondent could manage to satisfy these cravings I should be eternally grateful to him—but in any case please "let me down lightly."—Yours expectantly, C. W. T., *Thornton Heath, October* 24, 1896.

BEES AND COTTAGERS.

[2670.] I have often read in your excellent journal statements by lecturers on bee-keeping that this industry was likely to prove of great value financially to the cottager.

Having had five years' experience in bee-keeping as a cottager, I should like the opportunity of asking some of these gentlemen how bee-keeping *can* be made profitable when worked on so limited a scale as the average cottager is bound to conduct it? The present prices at which honey is offered by large producers is enough to dishearten the most ardent small bee-keeper, and bee-keeping is, like most other industries, fast getting into the hands of capitalists, who are beating the small producer clean from the field.

I can understand the large producer, situated in a good district and with ample time, and every convenience and apppliance to hand, offering honey at 6d. per lb. carriage paid and tins free, or sections at 5s. per doz. But where is the cottager alongside this, with his apiary of two hives, his scanty time, and his sling extractor?

Speaking for myself, I cannot compete, and must be content to raise a few pounds for our own consumption, and remain—A Disappointed Cottager.

[In view of the fact that an intelligent cottager who is an advanced bee-keeper may secure as much as 50 lb. to 80 lb. of honey per hive in an ordinary good season, there is surely nothing very misleading in the statement of a lecturer as to the financial value of the industry to the cottager? At 6d. per lb. the return should far exceed anything he could hope to realise from the produce of a garden or allotment with an equal amount of labour and time. At the same time we cannot think any thoughtful man would argue that the industry of bee-keeping must stand still for the sake of those who can only keep two hives.—Eds.]

WESTERN NOTES.

WINTERING SMALL LOTS OF DRIVEN BEES.

[2671.] Not seeing any particular notes from this district (Bristol), I venture to think some readers might be interested to know how things have been here during the season just closed. As in most parts of these islands, the drought caused us to experience a poor time of it so far as honey. From the early fruit and May blossoms stocks did remarkably well, and hives were soon boiling over with bees; but alas! the clover plant withered, the flowers thereof faded, and no nectar was to be found in the fields. And so, realising the state of things, I divided all my stocks early in July, raised some fine young queens, and, in fact, being done out of honey I resolved to make it up in bees, and in the end I have two-thirds more stocks to winter than I began the year with.

Not much bee-work has been possible during the last month on account of the excessive wet, the high winds and driving rains have also given hives a severe testing, and bee-keepers will have an opportunity before the winter proper begins to see that all these defects are remedied.

I am trying the experiment of wintering several lots of driven bees on three frames each, in long hives, divided by "Wells" dummies, and so far they appear to be settling down in first-rate condition. I will, however, report on them later on, if you think it will be of any interest to your readers. Our Association (the Bristol) is in a thriving condition under the very best of secretaries, Miss H. Dawe, and you will doubtless hear great things of us as time goes on. She is now tackling the County Council as to a grant for (among other things) the total extermination of "foul brood." I have not yet had the bother of it here, and if remedies are of any use I never will. That we may all have a successful wintering for our bees is the wish of AMATEUR, *Totterdown, Bristol, October* 17.

[By all means send on report mentioned when the bees are examined in early spring.—EDS.]

VARIATION IN HONEY HARVEST.

[2672.] Will you allow me to correct an error which appeared in the BEE JOURNAL (October 15, p. 418) in reference to the acreage of white clover *re* Mr. W. J. Norman, of Harpley Mills, in his take of honey. Seeing Mr. Norman to-day, he informs me that within a radius of one mile, instead of 20 acres, there were nearly 200 acres; in fact, there was one field of 32 acres, and another of 27 acres within 200 yards of his apiary. By inserting this, it will show to our brother bee-keepers why Mr. Norman secured such an excellent harvest of honey. As Mr. Norman has only just started bee-keeping in bar-frame hives, I must say there is great credit due to him in the way he worked his hives, and had his bees in such splendid condition just at the right time.—C. J. COOKE, hon. sec., North Norfolk Bee-keepers' Association.

WAX EXTRACTING.

[2673.] I wonder why the Hon. R. L. Taylor (p. 428) objects to the old-fashioned method of immersing a bag of combs under water in the kitchen boiler to obtain the wax? Of course, the wax obtained in his way is not fit for exhibition; still, after being remelted once or twice in a vessel standing in water, cutting off the debris at the base when cold, I always get a very fair wax suitable for household purposes or for making into comb foundation. If one requires wax for show purposes, it is simply a matter of grading the comb before melting. The hon. gentleman goes on to tell us (we sitting listening with wide open mouths) that the comb should be put *loose* in the boiler and—mark this!—the boiler must be in the honey-house. Then, when the comb is melted, you press it out of the way with a perforated vessel, and out of this vessel you scoop the wax.

This seems to me a roundabout way to arrive at the same end. The old-fashioned way is the broad highway, and the hon. gentleman's is the country lane, full of ruts. No, although I should be very glad to oblige my American cousin, I really can't sit up all night dipping wax, not even if it comes of such a colour as to make a buttercup look dowdy!

Consider the difference. The Hon. R. L. Taylor is continually leaning over the boiler, not noticing perhaps that his waistcoat is rubbing off the lime-wash. The scoop becomes no better than a stick, because of the wax cooling so quickly, and then may be heard words, which, alas! no doubt prompted old Warder to describe the sex as having "dreadful voices." Again, we can imagine the metal handle of the scoop getting nearly red-hot through being held in the scalding water, and our friend dropping it in suddenly so that the wax splashes on to his hand. Then he would begin to dance and so tread on the toe of the Hon. Lady Taylor, who, in stepping back, would knock over the tray of tea things (the best set of Dresden) that the servant girl was just bringing in. Drop the curtain quickly!

While "Lordswood" would be sitting in a comfortable chair, his heels resting on the top of the boiler, his eyes fixed on the BEE JOURNAL; and every half hour or so he would calmly rise, and, taking the stick with which (I imagine) the ladies poke the clothes (you can tell it, because it looks as though it has been boiled nearly tender enough for eating) he would poke the bag to set free the wax that might be held in topsy-turvey cells; and about 11 p.m. he would retire to rest, to dream of anything but wax. Next morning—Sunday as it happens—he would take out the sheet of wax, now cold, the bag of débris and weights within it, the line-props. Sarah Jane would clear out the water, scrape the rim round a bit, and then outside the Salvation Army band would begin to play.—LORDSWOOD.

AT THE DAIRY SHOW, 1896.

CHEAP CARRIAGE FOR HONEY BY RAIL.

[2674.] Last week I was looking forward to it, and now it is a thing of the past; but it is gratifying to meet brother bee-keepers, to discuss our hobby, or I may say "business" now, in view of the increased exhibits in the honey department. The judges must indeed have had a difficult task in judging the 1-lb. jars of extracted honey, in which class were some of the finest samples of honey I ever set eyes upon, as far as appearance went. I believe the awards have given every satisfaction; and we had no "tall bottle" controversy this year. The comb-honey I did not think quite up to the mark—at least, I have seen better. Heather-honey I am not conversant with, so give no opinion. Mead, vinegar, and beeswax made a very good show. Mr. Seymour's

exhibit did great credit to him. I believe there is a future for mead and vinegar. We are well aware that Englishmen, as a rule, would rather drink good mead than eat good honey; in this respect they are like their forefathers, the Druids!

There is one thing, Messrs. Editors, I should like to ask very emphatically: Why is it that bee-keepers, in sending their exhibits, do not take advantage of the "owner's risk" rate? One bee-keeper, whose acquaintance I was very pleased to make at Jermyn-street, told me that the carriage of 40 lb. of honey from Yorkshire to London cost him 10s.; whereas my own exhibits (weighing 260 lb. gross), from Somersham to London, a distance of seventy miles, all delivered free and safe into the Hall at Dairy Show, cost me 5s. 5d.! Surely this is worth thinking about on the part of bee-men. Bee-keepers confound the "special rates for agricultural produce" with the "owner's risk" rate. If you cannot get satisfactory information as to this matter from the collector at your station, write to the manager of the passenger department, and you will get an answer per return. I say this from experience, as I have always found managers men of prompt business habits. In the special rate for small agricultural produce the company provide packages. But those that I have seen are not sufficiently strong for safe carriage of honey, especially in sections and bottles. I have seen all sorts of packages for comb-honey, but nothing in my mind comes up to a good spring crate.

In conclusion—if you will allow me to give a hint (from a fruit-grower who is a bee-man) to any of your readers who grow fruit either for pleasure or for sale—I would say, if you want a good thing in late plums, get "Rivers' Late Monarch"; for strawberries, the new "Monarch," one of Laxton's latest productions, for raspberries, "Superlative"; and for apples, "Lane's Prince Albert," and "Bramley Seedling," which are the two best late apples. This is not for a free advertisement, as I have no plants to dispose of, but I grow them all. I am happy to inform all bee-keepers and fruit-growers that I have had a splendid crop in all fruit, barring pears, which has been very light in our district, and this I attribute mainly to my big stock of bees. Trusting we may all meet again at the Dairy Show next year.—P. Brown, *Somersham, October* 26.

A LADY'S EXPERIENCE OF TRANSFERRING.

[2675.] Early this year I saw mentioned in your paper, how to get bees into a frame-hive from a skep. I thought I would try the plan and the following is the result:—May the 4th. Lifted straw skep on the top of a new frame-hive without any sort of board under. The skep being of course circular, I packed round it with flannel used for scrubbing floors, covered all over with two sacks (nothing better than "blanket pins" to keep sacks close and compact). On June 2nd, bees were "hanging out." I therefore put a box on top of skep as a super. These boxes hold about 8 lb. to 12 lb. of honey and are made from the boxes in which black-lead is sold. One year I took 86 lb. of honey from a single skep in these boxes. June 12th, finding bees still keeping idle, with some anxiety I took the skep away and put a super on. July 12th, I concluded there would be no chance of the bees filling it. I ought not to have given them a full-size super; however, having two boxes half-full (similar to those alluded to above) taken from a straw hive that had swarmed, I put them on, then I weighed the frames of comb and found there were 17 lb. of honey in them, so when my other hives wanted new comb I gave them these to finish off. August 5th, took one box weighing 12 lb. put on another. 26th, took second box, 11½ lb., and on October 4th, a third box of 6¾ lb.; total, with what was taken away in the frames, 47¼ lb.

To return to the skep taken away on June 12th, there were very few bees in it at the time, but plenty of brood in combs. I asked one of our men if he would like to try and preserve it. In the next three weeks there seemed to be scarcely any bees about it, but afterwards they rapidly increased, and when he was packing them for the winter he looked in the skep, and to use his own expression, he was "wholly done" to see such a quantity of bees. For this success I have to thank your journal. I have been fortunate with my bees this year, as from my other frame-hive I got 114½ lb.—B. H., *Suffolk.*

PRESERVATION OF COMBS.

[2676.] Referring to the article in your issue of October 15 (p. 419), on preservation of combs, the method described therein of placing layers of newspaper between each box of combs is what I adopted when putting combs away for the winter, but after getting the bees to clean the combs as dry as possible, scraping propolis off, and paring down any that were bulging out, I took off the metal ends, thus allowing about twelve combs to be packed in each box instead of ten. At the bottom of each box and resting on the layer of newspaper is placed three or four balls of naphthaline, which I think a great preventive of the wax moth. Do you think the bees will show any antipathy to the fumes of the naphthaline, and when the combs are next put on, will it keep them out of the supers? [No.—Eds.] It is another advantage in having hives of the same dimensions, in being able to pack your combs away securely from the ravages of the moth.—Wm. Russell West, *Sunnyside Apiary, Northenden.—October* 19.

Queries and Replies.

[1577.] *Heather Honey in Surrey.*—As a constant reader of the B.J. I should be much obliged if you would give me your opinion on the sample of honey in comb (marked and identified by my card) which I am sending by this post. I should like your opinion as to quality, and source from which derived? I have (in addition to my bees at Beckenham) kept bees here for over twelve years, and I never remember taking such orange-coloured honey and of such thick consistency. This place is on the borders of Sussex and Hants, and there are numerous small commons, so perhaps it is heather, but I have no experience in it. I have done very well this year, and the bulk of my late honey is as sample sent.—R. Borrowman, *Hambledon, Surrey, October* 24.

Reply.—We do not usually print in full such queries as that of our correspondent, but simply express our opinion as to quality of honey submitted to us in another column. The honey sent however possesses so much of interest for bee-keepers, as showing what can be got in the south, that we insert it here in full, and, in reply, beg to say the sample shows that some parts of Surrey are capable of producing excellent heather honey, such as would, no doubt, sell readily in London at a good price if stored in sections.

[1578].—*Candy Making. Fees for Immediate Replies*—1. Would you kindly say whether the enclosed candy is what it should be? I followed the instructions given on page 160 of the "Guide Book." I fear, however, it is harder and drier than is intended. I put some, cut into strips, on the top of the frames of one of my hives to-day. The weather was bright-frosty, but with a strong sun. The bees had a great coming and going, after the candy was put on, for hours. It seemed to me that some of them, at least, were carrying the candy out in small particles! My other hives were all quiet. To-day (October 24) has been cold and raw. We have had several very heavy showers of snow. Notwithstanding this the bees in above hive have been making constant journeys. This is quite abnormal, and is evidently traceable to the candy having been put on. 2. Can you explain the reason of it? 3. Would you recommend me to take this candy off and to put on "soft candy"? 4. What is the most suitable weather *in winter* for opening hive for examination, *i.e.*, bright and mild, or dull and cold? As a postscript to my other queries, may I ask if there is any likelihood of your adopting the suggestion I took the liberty of making some time ago that you might give immediate replies by post to queries on payment of a small charge? Several bee-keepers here to whom I have mentioned the matter say they would look upon such a concession as a great boon. No doubt there are very many amongst the subscribers to the B.B.J. who would take the same view. As I pointed out, advice received a week or fortnight after it is asked has, in practical matters, its value much impaired. Of course, giving your replies in the way indicated need not interfere with letter and replies appearing in the B.B.J. as well if you thought them of general interest.—R. C. Smith, *Biggar, N.B., October* 24.

Reply.—1. The candy has been a little over-boiled, otherwise it would be a very good sample. As it would probably become quite hard if left on the hives, we should remove it at once and use what remains in spring when syrup making. 2. No doubt the disturbance of the hive and giving food has roused the bees into activity, which will soon subside. 3. Yes. 4. We deprecate the disturbing of hives at all in winter, but when inspection is absolutely necessary it should, if possible, take place when bees are flying of their own accord. So far as your postscript, we should be very pleased to send post replies if we could, but unless some such arrangement as the one suggested were adopted it is not practicable. In fact, the work of attending to extra correspondence of that kind would involve special arrangements which, if the real need arose, we could no doubt make. We will consider the matter and refer to it again shortly.

[1579.] *Protecting Skeps in Winter.*—I am only just commencing bee-culture, and I should be glad if you would give me some information on a few points:—1. In June an old hive standing in my garden was occupied by a stray swarm; as the hive was falling to pieces I had the bees moved into a new skep on August 22, putting all comb containing brood inside. A week later I commenced to feed with syrup, made according to receipt in "Guide Book." During the eight weeks that have elapsed I have used 25 lb. of sugar in making syrup, all of which (except about a pint) they have taken. Is this sufficient to make them safe for winter? 2. Is it advisable to disturb skep to see condition of bees and food, or not? 3. What is the best way to prepare a skep for winter to ensure sufficient warmth? My hive stands on a board about 24 in. by 20 in. I had thought of putting a wood casing round the hive, filling up the interior with hay, leaving a space clear in front of entrance for ventilation, and covering all with wooden roof to keep out rain. Would that answer, do you think? 4. I want to remove the bees into a frame-hive in the spring; how early should this be done, and what is the best way of doing it? Or would you advise keeping the skep as a stock hive, and waiting for a swarm to start the frame-hive with? 5. Can you give me the name and address of the Secretary of the Herefordshire B.K. Association?—W. Head, *Brilly Vicarage, Whitney-on-Wye, October* 23.

Reply.—1. Yes, that amount should be

ample. 2. We are curious to know how you have fixed up the brood-combs from the old skep into the new one, because if there is any chance of bees having attached the transferred combs to the floor board whereon the hive now stands, it should not be disturbed for fear of a breakdown resulting. 3. A wood casing, in the form of a used American cheese-box, makes an excellent protecting cover for a skep hive. With a sack on top and milk-pan to cover all and carry off rain, it will keep the bees both dry and warm. 5. By all means let the skep swarm, and start your frame-hive with clean, new combs in early summer. 6. Mr. Alfred Watkins, Imperial Mills, Hereford, is hon. sec. of the Herefordshire, B.K.A.

[1580.] *Stimulating Bees, and Food Supplies.*—I have been stimulating my bees by feeding for some time, according to your advice, and the stock is very much stronger in consequence; but, to my astonishment, instead of finding a good supply of food, the bees seems to have consumed all the syrup given them in brood-rearing. As soon as I found this out I sent for a rapid feeder, but the bees refuse to take the food from it, and when I tried them with a bottle on the top the syrup candied before the bees could take it all down. What is the best thing to do under the circumstances, as the two hives contain very little stores indeed?—SALOP, *Wellington, October* 21.

REPLY.—The reason why we so continually lay stress on the need for feeding-up not later than September, is because bees frequently refuse to touch syrup if the weather happens to be cold in October. We also advised that in late feeding the syrup should be given warm. It is for our correspondent himself to say how far these recommendations have been carried out. For the present there is nothing left but relying upon a full supply of soft candy for effectually saving the bees from want during winter. If the candy is really soft and well-made, a good sized cake of it (say 3 lb. in weight) will last three months or so, and if the bees can be induced to remain clustered below the cake, it can be renewed as consumed. A glass-covered box for the candy would be useful to show when supply needs renewing.

Bee Shows to Come.

November 12.—In connection with Ludlow Fruit and Chrysanthemum Society's Exhibition. Two open classes. Entry fee, 1s. each class. Schedules from J. Palmer, 17, Brand-lane, Ludlow. Entries close November 5.

November 18 and 19, at Newcastle-on-Tyne. —Northumberland and Durham B.K.A., in connection with the Horticultural Society's Chrysanthemum Show at the Town Hall. Three open classes. Entry fee, 1s. each class. Schedules from J. N. Kidd, 29, Windermere-street, Gateshead. Entries close November 13.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

A. H. (North Bucks).—*Driving Bees Direct from Skeps into Frame-hives.*—1. We are very pleased to hear of your success in driving bees from skeps direct into frame-hives, instead of empty skeps; but, as before stated, we cannot advise beginners to adopt the plan in preference to what experienced men have proved to be a better way. 2. Candy is the only suitable food for bees at this season, and if the driven lots have had 20 lb. of syrup each, they should not require much additional food. A 2 lb. cake of soft candy will suffice for each. 3. The guarantee of seller must be got as to sugar being pure cane or not. We cannot get it analysed at a less cost than half a guinea. For the rest of our correspondent's communication we must deal with it in general terms by saying that we will gladly allow him to say, and to believe, that "metal ends are a nuisance," that a split top-bar is as bad because of harbouring moths, that he prefers the top bar somewhat different to those of standard frame. In fact, it is perfectly free for every one to have things just as his personal preferences lead; but when our correspondent asks us to print his views, and invites comments thereon, we are obliged to say we could not find space for what seems to us like "improving things back again" to old methods proved to be faulty, and given up on that account.

"M" (Atherstone).—*Honey Samples.*—We do not find anything "unpleasant in flavour" of sample received, on the contrary, we think it a very nice flavoured honey. Its fault is poor consistency. If thicker or riper we should call it a good honey. It has a slight "nutty" flavour which gives it some character apart from mere sweetness, but nothing unpleasant.

J. FRANK (Sheffield).—*Fermenting Honey.*—1. If fermentation is only beginning the honey may be rendered quite fit for home use by immersing the jars in warm water and gradually heating to about 160 deg. Fahrenheit. 2. Should the "extracted sections" not cleaned up by the bees contain granules of this year's honey, it will tend to cause next year's gathering stored in them to granulate more readily than if properly cleaned. The bees will, however, take to them freely enough, just as they will to store combs used for extracting.

L. G. W. (Isle of Man).—*Amount of Stores for Winter.*—Leave the whole eight frames in hive for winter. The estimated weight of stores (less than 24 lb.) is not too much, and the honey will keep better in the hive than in the store-room.

Editorial, Notices, &c.

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

In the course of a week or two we hope to commence the publication in these pages of a series of photographic views—reproduced by the half-tone process—representing the apiaries of some of our readers. We already possess photos, sent from time to time by correspondents, with which to make a beginning, and will be very pleased to receive others wherein the "view" happens to be more or less suitable for reproduction as a *picture*. We lay stress on the last-named point, because a collection of frame-hives, of the orthodox or generally accepted type, are, as a rule, very unattractive-looking objects, unless the surroundings lend themselves towards forming a presentable scene from the picturesque point.

Views of large apiaries will, of course, under any circumstances, be interesting for several reasons; the number of hives alone making them attractive. On the other hand, it would hardly be desirable to include views where less than half a dozen hives are seen, unless in very exceptional cases. Views which include bee-houses of good design will convey useful lessons to many, and special novelties in the way of hive construction shown in actual use, are always interesting as objects for illustration.

There can, we think, be no two opinions as to the general interest attachable to a series of views from nature, showing some of the "Homes of the Honey Bee" (to borrow the title by which our friend Mr. A. I. Root, Editor of *Gleanings*, designates his own apiary), owned by British bee-keepers. This is what we hope, with the help of our readers, to present during the coming winter, accompanied with any useful particulars connected with the bee-work carried on in them.

Photos should be as nearly uniform in size as may be, the ordinary half-plate, 6½ in. by 4¾ in., being the most useful size. They should be what are known as "Silver prints," on smooth paper, as sharp as possible, and neither pale nor very dark. Carte-de-visite size are unsuitable.

BRITISH BEE-KEEPERS' ASSOCIATION

CONVERSAZIONE.

The last Conversazione of the present year was held at four o'clock on the 22nd ult. at 105, Jermyn-street, St. James's. The spacious board-room of the R.S.P.C.A. was unusually crowded by an audience consisting largely of bee-keepers—including several ladies—who had been brought to London by the attractions of the Dairy Show at the Agricultural Hall, whence they were invited to attend this meeting.

Mr. Henry Jonas, Hon. Treasurer B.B.K.A. was voted to the Chair, and the Council of the Association was represented by Mr. T. W. Cowan (Chairman), Mr. E. D. Till (Vice-Chairman), the Hon. and Rev. H. Bligh, the Rev. R. Errington, Major Fair, Messrs. H. W. Brice, W. Broughton Carr, J. H. New, and T. I. Weston, with Miss Dawe, Mr. J. M. Hooker, A. G. Pugh, and Rev. W. E. Burkitt, representing Bristol and District, Kent, Notts, and Wilts respectively, *ex-officio*, and Edwin H. Young, Secretary B.B.K.A.

Among the general visitors whose names appear below will be found hon. officials and prominent members of the following County Associations: — Middlesex, Surrey, Kent, Essex, Berks, Oxon, Bristol, Derby, Notts, Lincs, Hunts, Leicester, Lancs, and Cheshire, Worcester, Northants, and Yorks, including the following ladies and gentlemen, viz.:— W. R. Attfield, W. J. Anstey, J. Aubrey, R. Brown, Mrs. R. and Miss Brown, R. C. Blundell, T. Barrie, G. A. Cleveland, R. Dymond, W. Ford, J. H. Howard, W. Howard, J. W. Jacomb Hood, R. Hamlyn-Harris, A. P. Horlick, G. Hayes, H. E. Jeal, E. Longhurst, Mrs. E. Longhurst, Percy Leigh, W. P. Meadows, J. Martin, W. Martin, W. J. Moore, H. J. B. Moreland, Robt. Ness, J. North, W. Newman, A. Peach, J. Perry, R. Peters, H. W. Seymour, Dr. Percy Sharp, Tom Sells, P. Scattergood, A. Sharp, H. Sayers, Junr., Ned Swain, A. Starling, A. Twinn, J. R. Truss, Wm. Woodley, A. D. Woodley, John Walton, Geo. Wells, W. B. Webster, W. H. Woods, P. B. Wood, Mrs. P. B. Wood, F. Walker, E. H. Walker, F. B. White, F. Willson, and J. Waterfield.

The Chairman opened the proceedings, and expressed his pleasure in meeting so large an audience, many of whom were strangers, but all were heartily welcome.

Mr. Cowan exhibited specimens of section-honey which had been sent over from Australia several months ago. At that time they were in very good condition, and the honey—supposed to be white clover honey—excellent; but now "oozing" had commenced, and the surface of the sections were discoloured, owing to the capping being very thin. He invited the company to taste the samples. He also showed a section of British honey, which had been standing in the office of the BEE JOURNAL for more than two years and was now in perfect

condition, with no signs of leakage or granulation, as could be seen on inspection.

The Australian sections were passed round and tasted by nearly all present. Mr. Till was of opinion that the Australian sections were vastly inferior in condition and flavour to English produce, consequently there was not much to fear from foreign or colonial competition as regarded quality. He had tasted some sainfoin honey from Minorca, which did not by any means equal English sainfoin honey. Referring to the entries at the Dairy Show this year, the speaker said there was ground for congratulation, seeing that they were 30 per cent. in excess of last year's and exactly double those of 1894. The total English entries for honey, &c., were 158; Scotch, 11; Wales and Ireland none. Both Scotland and Yorkshire made fairly a good show of heather honey. The reason for the large number of prizes in proportion to the entries being so marked in these two cases was consequent on the competition in the heather classes being far less severe. The analysis of the entries and counties would probably be interesting to those present, and he would read it as follows:—

Counties.	Entries.	Prizes.
Kent*	24 ...	3
Berks	19 ...	3
Hants†	15 ...	1
Oxon	15 ...	2
Lincoln...	10 ...	2
Hunts‡...	14 ...	7
Yorks	6 ...	5
Northants	5 ...	1
Notts	4 ...	1
Leicester	5 ...	1

*Silver medal. †Bronze medal.
‡ Certificate.

The non-winning counties, with the respective number of entries to each, are as follows:—

Essex, 7; Middlesex, 5; Norfolk, 4; Sussex, 4; Wilts, 4; Surrey, 2; Herts, 2; Beds, 2; Somerset, 2; Cambs, 2; Suffolk, 2; Staffordshire, 1; Worcester, 1; Dorset, 1; Cheshire, 1. Total entries, 158; prizes, 26. Scotland, 11 entries and 6 prizes.

The counties which did not join in the exhibition were Gloucestershire, Shropshire, Warwickshire, Cornwall, Devonshire, Lancashire, Rutland, Bucks, Derbyshire, Westmoreland, Cumberland, Durham, and Northumberland, to which list must be added Wales and Ireland. He wished the counties which had only sent one or two exhibits would, in future, emulate the example of Berks, Hants, Oxon, Lincoln, and Hunts, when there would be an enormous display at the Dairy Show, which would, no doubt, bring more of the London tradesmen there. He hoped the counties would exert themselves more in future; there was every prospect of Scotland doing so, and perhaps Ireland might be induced to enter. It was a great pity there were not a few trophies, which would have looked more imposing than the ordinary arrangement of exhibits. He also thought that the prize list might be further extended for light and dark honey, and the extracted honey classed. The general result, however, was extremely satisfactory.

Mr. Weston indorsed Mr. Till's suggestion that the schedule should be extended and the prizes for run honey and heather honey made larger. There was also the question of honey packages. He wished to know whether the prize was given for the package irrespective of the character of the honey it inclosed. He thought some people might be prevented from sending exhibits, fearing the awards would be governed by the package rather than the quality of the honey contained therein.

Mr. Carr thought that if exhibitors would read the schedule with ordinary care they would see that there was not a "package" class in it at all, but simply an inducement offered to exhibitors to show in the class for extracted honey a serviceable and cheap package. It was considered desirable—in a commercial sense—to encourage such a production, and the judges were asked to take into account the "package," although (and there should be no misunderstanding about this) the primary consideration was the honey itself. No doubt there ought to be a separate class for the package, and then judges would have no difficulty, but the great obstacle to the extension of the prize list was, as usual, a financial one. He would be glad if the Council of the B.B.K.A. could see their way to introduce separate classes for every division of the subject, and they had already made a move forward by adding classes for heather honey, and also for dark honey. Referring to the latter, he said a bee-keeper living in the country had written to the *Journal* complaining bitterly that the honey from his district, when staged at shows, was always ignored by judges because it was dark. This gentleman was honest enough to send up a sample from his neighbourhood, and ask why it was never regarded favourably at shows? But with every wish that each quality of honey should have justice done it, he (the speaker) would pass round the sample for the opinion of those present, and ask whether they considered that such honey could ever be introduced on the market as a table honey, or whether it could be favourably regarded at shows? The producer had assured them that it was pure honey, and seemed to regard it as from white clover. The sample of honey was passed round and its colour and flavour discussed, the opinion of all being that it would never sell as a table honey, the flavour being considered very inferior.

Mr. Weston wished to ask why only honey of 1895, or any previous year, was admitted in the *granulated* class, and not honey of the current year?

Mr. Carr said that a judge could not possibly tell whether the honey was produced in 1895 or 1896 when it was granulated hard. It was therefore a question of honour on the part of exhibitors.

The Chairman (Mr. Jonas) thought the reason was that 1896 honey had plenty of opportunities of competing as liquid honey, and it would not be quite fair to place it in competition with honey that had been twelve months exposed to air.

Mr. Carr said this objection could be easily met by throwing open the granulated class to honey of any year. A beautiful sample of honey was entered at the dairy show in the granulated class by a well-known exhibitor, but it was disqualified because although granulat*ing* it was not granulat*ed*. Referring again to the question of dark honey, the speaker said it should not be left where it was, and in continuing the discussion, he exhibited and passed round for inspection a sample of dark honey produced in Mr. Cowan's apiary, which was a complete contrast to the specimen they had tasted earlier on, and would hold its own in any market. He would suggest also that as heather honey had a class to itself, it should be excluded from the dark honey class.

Mr. Webster said the taste and colour of the dark honey just passed round reminded him of the sort produced in a district within five miles of where he lived, viz., in the neighbourhood of Ascot, Cobham, Sunningdale, or thereabouts, and he guessed that the sample came from that locality. The sub-soil of that district was of a clayey nature with black sand on top.

Mr. Cowan said that when bee-keepers obtained honey of very dark colour and inferior quality, such as would not have any chance of securing a market, the next best thing to do was to turn it into vinegar. He had tried some experiments in making vinegar from Mr. Bancks' recipe, and found little or no difficulty in producing a very excellent vinegar; better, as the grocers told him, than their white-wine vinegar. In proof of this, they had given him more for it, by a penny a gallon, than the usual price paid for the best vinegar. He had received 1s. 10d. per gallon, a price that paid very well; and when they knew that vinegar could be made from honey which in the ordinary course would not fetch more than 2d. to 3d. per lb.—to say nothing of fermenting honey, which would hardly realise anything at all—they would agree that when 1½ lb. of honey made a gallon of vinegar, it must pay well for the making. On the question of dark honey being saleable or not, he might tell them that the dark honey they had tasted came from his own bees, and he had got 10s. per dozen 1 lb. jars for it from a tradesman.

In making vinegar the first step was to mix honey with water in the proportion he had mentioned. The liquid was then placed in a cask; after which some ferment must be added, prepared vinous ferment being the best, but ordinary yeast might be used. In his own case the cask of liquor was put into a warm cupboard in the kitchen, where it remained a couple of months, until it began to get sour, and, once acidification began, it went on very rapidly, until in two months and three weeks from first mixing, the vinegar was ready to be clarified with Isinglass. This was done, and a fortnight later it was ready for market. He thought if that plan were carried out there would not be much difficulty in disposing of honey for which there was no sale otherwise.

Mr. W. B. Webster called attention to the fact that vinegar manufacturers had to give notice to the Excise officers and take out a licence.

The Chairman exhibited a bottle of mead prepared by Mr. Seymour about twelve months ago, and which formed part of his prize collection at the Dairy Show. The liquor was passed round and very favourably criticised by those present.

Mr. Till regretted the enforced absence of Mr. Bancks, who had intended to be with them that evening. Mr. Bancks had been trying to extend the manufacture of honey vinegar on a large scale, and had entered into correspondence with the best vinegar expert in the kingdom, from whom he had obtained information that would be of the greatest value. He might say there was every prospect of good news about honey vinegar. He hoped, however, that the trade would never get into the hands of those who would use foreign instead of English honey. Mr. A. Sharp, who was present, also had samples of mead, which were passed round; and the maker invited the opinion of the company thereon.

A conversation took place on the merits of the meads which had been tasted by a large number of the visitors and generally approved.

(*Conclusion of Report next week.*)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

EXPERIENTIA DOCET.

[2677.] The experience gathered at 1895 Dairy Show has borne good fruit in 1896. The cause of bee-keeping has been much helped by the hearty way in which bee-keepers have again responded to the call Those who feel a special interest and responsibility in connection with this show are very grateful to every individual who made entries. Only a few can hope to win, and there was much honey staged this year that merited

prizes without the possibility of obtaining them. The experience gained in 1896 should beget further fruit in 1897. Thus we must have:—(1) More prize money; (2) commercial package class made amenable to common sense, and separate classes for mead, vinegar, wax, &c.; (3) higher staging for economy of space in order to make room for (4) a trophy class; (5) a small B.B.K.A. office, with chairs for those who assist and have to stand so many hours; (6) representatives from each county association to attend and afford information to visitors, and enlist members for their county B.K.A.; (7) more judges, so as to complete the work early on first day, and get awards out for the first issue of prized catalogues. (This is not meant to convey the least reflection on the judges, who had more work in tasting than ought to have devolved on them. Division of labour will overcome the difficulty another year.)

Far from casting reproach, I felt the keenest pity for the judges, who must have literally swallowed pounds of honey—honey of superb excellence, I admit, but I should think it was rather "too much of a good thing." For myself, I can only say that had I "officiated" on so much honey my first business on reaching home would have been to inquire for the medicine chest; adding, in purgatorial accents, "Experientia docet!"—A MEMBER OF THE DAIRY FARMERS' ASSOCIATION.

THE "ROYAL" SHOW OF 1897.

[2678.] Thanks for your foot-note to my letter (2658, p. 435). It will be a boon to prospective exhibitors in the "Trophy Class" to know that it will be useless to hold over a quantity of their best honey, both comb and extracted, with any hope of joining the lists at Manchester 1897 R.A.S. Meeting, therefore we can now place same on the market when disposed to do so. How easy it would be for the B.B.K.A. Exhibitions Committee to render useful help to honey-producers, by giving broad hints through the B.J. on what lines the schedules of future shows would be drawn! I am suprised to hear that the local committee should place restrictions on the Show Committee of the British B. K. Association, who I had always thought prepared the schedule for the bee department of the R.A.S., and managed the honey show. I can quite understand a body of gentlemen expressing a wish, on making a grant to an association, that the whole of the money voted should be applied in advancing the object for which it was voted, but to lay down conditions as to size of exhibits—as I gather from "Fact No. 2," to have been the case—seems to me to be somewhat unreasonable.

I was sorry to hear—no, *see*—the wail of my disappointed cottager bee-keeping friend (2670, p. 431). I fear his "take" has not been a large one this season, but if he had secured the moderate take of 40 lb. per hive, this at 6d. would have yielded £2, and so helped to swell the harvest earnings to meet "rent day" or the shoe bill, or provide the fuel for the coming winter. When he speaks of more time for the large bee-keeper, I fear he is thinking that the spare hours grow in proportion to the size of the apiary. Again, regarding price, I do not think many of the larger producers would be anxious to undersell. The man who devotes a large part of his time to attending to his bees, in hopes of making a living at the craft, will not, as a rule, care to part with his product under market value. Perhaps "Disappointed Cottager" hoped to realise the good old price of 1s. per lb. for his honey. If he could only get half an hour's talk with that veteran bee-keeper, John Walton, and hear him relate how he once (in the long ago) took a bell-glass super of honey into Leamington, weighing, I believe, 72 lb., and received 72 half-crowns for it!—and how, at one of the shows of the B.B.K.A. at South Kensington, he sold sections weighing 1 lb. each—with two squares of glass held to their sides with an elastic band, at 1s. 9d. each—he would almost wish he had been born at an earlier part of the century.

Personally I must thank friend Brown for his letter (2674, p. 437). I had intended writing up the "Half Rate for Honey," but his letter fairly covers the field. I get a supply of consignment notes from the South-Western Railway, and fill in, so that my carrier has no trouble with the parcels, except to deliver to Railway Company and the consignment note with it.—W. WOODLEY, *Beedon, Newbury.*

STRAY SWARMS IN S. AFRICA.

[2679.] There are in Natal numerous swarms of wild honey-bees, what you would call "stray swarms" in England; on that account the competition from outside is very keen, and I think is one cause why the harvest in hives is small. These stray swarms live in hollow trees, holes in rocks, and even in the ground; but also take possession of the inner walls of buildings, and are found in curious places.

Frame-houses are built with corrugated iron outside, with an inner lining of board, and the scantlings being 4½ in. wide leave a space of that depth, and about 4 ft. square. This is a very favourite place for the bees, and they build their beautiful combs often a yard long and 2 ft. wide. They do not appear to mind the heat, which is intense, as the iron is so hot from the afternoon sun that it burns your hand.

People naturally take advantage of these swarms, and when not in an inconvenient place cut a hole so that they can take a slice of comb now and then. In one house a swarm took up their quarters in the cellar, where they hang in an enormous cluster, and the owner merely lights his pipe and collects his

"rent" by slicing off a plateful of comb when he needs it.

I found another swarm located in an old tin lining of a packing-case thrown away into the bush and open in twenty places; they must have been there at least two years, and when put into a frame-hive the bees cleared out. They did not believe in the advanced system.

Another "bee farm" is in a cliff where a large number of swarms (probably fifty or sixty in all) have located themselves in the rocks, the "farmer" going with smoke and a bucket and clearing out the nests.

The bees seem to have specially favourite spots that are never very long without a swarm, and, when one is taken out with comb and all, another usually comes within a fortnight. Such spots are a certain "catch" for bee-keepers; in fact, swarms are of no market value here. — A. C. S., *Durban, Natal, October* 9.

BEES AND COTTAGERS.

A LADY BEGINNER'S EXPERIENCE.

[2680.] I was extremely sorry to read the depressing account of bee-keeping given by "A Disappointed Cottager" on p. 436 of your last number. Having had a much more encouraging experience myself, I am sending a detailed account of the expenses, &c., of my small venture, in hopes of reassuring other beginners. Funds being limited, I only began in a small way, and, considering my entire lack of experience, have done much better than I expected.

In April, this year, my outlay was as follows:—

	£	s.	d.
Two frame hives	£1	10	0
Extra lifts, 3s.; excluder zinc, 2s. 8d.; 5 lb. broad foundation, 10s. 5d.; embedder, 2s.; feeders, 3s.; rapid feeders, 4s.; smoker, 2s. 6d. ...	1	7	7
Felt and paint, 6s.; *Guide Book*, 1s. 6d.; naphthol beta and naphthaline, 2s.	0	9	6
Two swarms and skeps	1	5	0
	£4	12	1

My current expenses, from May, when the swarms were hived, up to present date are:—

Sugar for spring feeding	0	1	6
Carriage of bees, &c.	0	5	0
3 lb. super foundation	0	8	6
3 doz. screw-top bottles and carriage	0	6	9
10 lb. loaf sugar for autumn feeding	0	2	1
Paint	0	2	0
	£1	5	10

These might have been reduced by "Disappointed Cottager," as he probably would not have objected to the two walks of seven miles to fetch the swarms, which cost me 5s. And experience would have saved me the 2s. 1d. for autumn sugar, as I learnt too late the bees had sufficient stores of their own for winter consumption, and I had to remove five frames of sealed stores from the two hives.

Hive No. 1 did very well, and in August I removed the super of shallow frames, containing about 30 lb. of honey. Hive No. 2 was never so vigorous as its neighbour, and there was only 8 lb. of honey in super. The honey was extracted, carefully strained, ripened, and put up for sale in screw-capped glass jars, and sold at the village florist's at 1s. the single jar of 1 lb. of honey, or 5s. the half-dozen jars.

My receipts were—

	£	s.	d.
12 oz. beeswax at 1½d. per oz.	£0	1	6
8 jars run honey at 1s. ...	0	8	0
24 jars run honey at 10d. ...	1	0	0
	£1	9	6

Like "A Disappointed Cottager," I was very doubtful of finding a market for a small quantity at a fair price, and without incurring heavy deductions for carriage, advertisement, &c.; but I conclude there is still some demand for well put-up honey, as there is only one jar left unsold to-day (October 30).

Besides my hives and stocks in good condition, I have in hand 2½ lb. brood foundation, 1¾ lb. super ditto, one super full of extracted combs (the combs in super hive No. 2. got broken). Perhaps I ought to add that this year I borrowed the extractor, but next year I hope to save enough to invest in one for myself.

I trust these plain facts may help "Disappointed Cottager" to take a brighter view of the bee-keeping industry, and to persevere. I know, too, a near neighbour, a *bonâ fide* cottager, with a few frame-hives and skeps, who always looks to the bees to clothe his eldest boy—by no means an advanced bee-keeper either, for until this year he has always destroyed the bees in taking the honey from the skeps—but this season, thanks to the *Guide Book*, he has successfully driven them, which should make a pleasing difference in his balancing of accounts.—M. B., *Herts.*

[The above results are very satisfactory indeed, especially for a lady. With an outlay of £5. 18s., a net profit of £1. 9s. 6d. is made, add to which value of surplus foundation and built-out combs, worth, say, 18s., a gross profit is shown of £2. 7s. 6d. on the first outlay for one year's work.—EDS.]

DISAPPOINTED COTTAGERS

SELLING SMALL LOTS OF HONEY.

[2681.] I have just been reading the complaint of "A Disappointed Cottager" (2670, p. 436) in this week's B.J. I notice that in the editorial foot-note you speak of getting 100 to 160 lb. of honey from two hives. I don't dispute your assertion for one moment, but let us suppose our friend gets a yearly average of 40 lb.; that, at 6*d. per lb.*, means £1. My

hives (I have eleven) cost me about £1 each. If "A Disappointed Cottager's" cost him the same, at any rate he gets 50 per cent. profit on his outlay.

I have no difficulty in getting rid of my honey. I am living in a town of about 13,000 inhabitants, and in a month from the middle of September to the middle of October last I sold 1 cwt. of honey easy, none less than 10d. per lb., to about seventy different people. If I chose I could sell another hundredweight.

It seems to me there are a good many bee-keepers afraid to ask any one to buy their honey retail when they have got it. Not having enough for my customers I advertised for some through the BEE JOURNAL, and had a great many replies (twenty, perhaps), some having only 20 lb. for sale! Do you know, sir, I almost felt inclined to write and tell them how simple they were to take the trouble to send me samples when they had such a small quantity to dispose of. Why, if they only tried they might have sold that lot to their neighbours before breakfast! Pride among these dear people has a lot to answer for. Is our friend, "A Disappointed Cottager," afflicted with the same complaint? Talk of being beaten out of the field by the capitalist —nonsense!

Let me beg of your correspondent to take heart, and then he need have no fear of capitalists, or any one else.

I believe, sir, there is a splendid field for English bee-keepers—small ones especially.—SAINFOIN, *St. Albans, October* 31.

BEES IN ESSEX.

MY WORK FOR 1896.

[2682.]—So little appears in BEE JOURNAL this year from Essex, I thought you would be glad to know how my bees have done in the county during the past dry season. I bought a swarm late in May, also a new hive with strips of foundation, into which I hived the bees, and they went to work at once. I fed them for about three weeks after hiving, and have taken about 50 lb. of honey, for which I got 9d. per section for all I sold, so I think the bees and myself have done well. Late in June I drove a truant swarm from an old tree. My experience of "Cuttin' a Bee Tree" was, however, not like that of our friend, whose amusing performance appeared in BEE JOURNAL a few weeks ago. After securing the bees I housed them in a hive, made by myself, and there was brood in about a week. They are now on eight full frames of stores, and as no honey has been taken from them I trust they will come out well in the spring. I also drove eight lots of bees from skeps for friends. Two of these lots are on five frames each, in hives I made. Is this enough to winter on? [Yes.—EDS.] The other lot I put in an empty skep, and fed them with syrup for six weeks. So I hope they also will stand the winter. But although my own hives have done so well, I find that bees in skeps have done very badly about here. I have packed my skep lot well, putting on top a felt quilt and some other warm coverings. Over this is fixed a large-sized old skep, which is covered with an American cheese-box, with some waterproof felt over all. I need not ask you if this is warm enough, as I know it is, but it may be useful to W. Head, whose query (1,579) appears on page 439 in this week's BEE JOURNAL, if you think proper to print it. Trusting for a kind winter and a good summer in 1897 for our bees.—G. C. R. W., *Wickford, November* 2.

BEES IN DURHAM.

[2683.] Seeing comparatively few reports of the bee season in the BEE JOURNAL for 1896, I herewith send you mine. We have had a poor year, with only about half the yield of 1895. I commenced the season with fourteen queens, eight in single hives, the other six in three hives worked on the "Wells system." I have increased my stocks to twenty-two by natural swarming. My total yield from clover was 140 lb. of very poor quality. From the heather I got 298 finished sections of nice heather-honey and a lot of unfinished ones. Among these latter were sixteen sections spoilt by the queen breeding in them, a thing I have never experienced to any extent before. The spoilt sections were from three of the hives, each with the whole eleven frames in brood-chamber and sections put on just before being taken to the heather. I also lost three valuable queens at the heather through swarming. Two of the queens were from a double-queen stock and one from a single-queen lot; these hives consequently yielded nothing. My best stock gave me 36 lb. of clover and 52 lb. of heather-honey in sections, and one stock headed by a queen of 1896 yielded fourteen sections of heather honey. Some of my best queens had brood in several frames when they came back from the heather. — GEORGE ROCHESTER, *Black Hill, Durham, November* 2.

SPARE THE EDITORS!

[2684.] MY DEAR "C. W. T."—As you are evidently, judging by your weight—*i.e.*, a hundredweight—a boy suffering from bee-enthusiasm, how can I refuse to reply to your more than ever vague queries, especially when I consider backwards and remember my own boy-bee-keeping exploits? Let it be understood, however, by all other "Helen's Babies" that in replying to "C. W. T." I do not wish to create a precedent, so our good Editors will greatly oblige me by inserting at the base "That this kind of correspondence must now cease."

It was from contemplating my own poor "dad's" crown, which is nothing but an excellent skating-rink for flies, that gave me

the desire to extend a protecting wing around our Editors lest they might also develop a smooth and glassy surface, "Where the wool had oughter grow."

So far from wishing to drop like a hundredweight of bricks down on struggling beginners who really mean to learn, my spirit is willing to invest in an autocar (a bicycle is too much like work), and to start off anywhere in response to telegrams; but my pocket is light! Wealthy beginners, please note!

And now, may I, in reply to my friend's mysterious queries, ask him one? He admits being a beginner! Well, previous to the instances of the bees' anger that he relates, may I ask "Had he been 'beginning' on those bees?" Not necessarily on that particular day, but during the week previously? If my dear friend is *the* beginner who—I notice in a recent issue—has commenced this season with a dozen hives (!), I make bold to say that if he will have patience, he will in about twelve months' time be able to answer all his own queries himself quite satisfactorily, *i.e*, if he is then still alive! Alive or dead, however, he will then cease to worry our likely-to-still-suffer Editors and poor——.—Lordswood.

ITALIAN QUEENS FROM ITALY.

[2685.] It may be interesting to those who ordered queens from Italy, and not have received any, to know that my consignment of eighteen queens arrived all in splendid condition, scarcely a dead bee amongst the lot. They were well packed—Monsieur Silvio Gallitti evidently knowing his business; and I think it only fair to recommend buyers who are readers of the Bee Journal to purchase, in preference, from those who advertise in its pages. Referring to the fact of the Postal authorities, as stated at the late conversazione, returning single queens to Italy or elsewhere because carrying of "live stock" (bees) by post being contrary to regulations, I would suggest to bee-keepers wanting only one or two queens, the advantage of joining together and one bee-keeper ordering for himself and friends not less than a half-dozen at once; thus saving carriage and probably getting discount, or else get them from reliable dealers in this country.—R. Ness, *Helmsley, Yorks, November* 1.

BEES AND COTTAGERS.

A SATISFIED COTTAGER'S REPORT.

[2686.] To quote the words of your correspondent, "speaking for myself" I agree with your editorial note to [2670], page 436. As a cottager I commenced in '92 with driven bees given by a neighbour, made my own hives, and got nearly eighty sections in '93. I have kept increasing my stocks every year since, and this year have nine stocks prepared for going into winter quarters. I hunt round for every scrap of information I can get from B.B.J., books, papers, or bee men, and bees for driving in autumn. I don't buy my hives, supers, or section racks, but amuse myself on winter evenings making them. When my honey is ready in summer, a few sections "placed" properly with my richer neighbours, and my price for extracted honey sent with them, help me to customers. I have already sold out at 7s. 6d. per doz. for sections wholesale, and 9s. retail. Extracted, in tie-over jars, 8s. wholesale, 9s. retail per doz. I have bought sections to supply customers, and refused orders, although I had 300 lb. in comb and extracted honey of my own to sell. Now a word of advice to cottagers:—Ask your grocer if he buys back from customers 1-lb. jam jars? If he does, he will let you have them cheap to save packing and returning to jam factory, and if you can get them cheaply it all adds to profit. Then see if there is no local market gardener, milkman, greengrocer, or hawker you know who visits the town who will take your honey and try to sell it for you. Such men I find generally know their customers, where they can place any good article for a good price. Keep down expense; tie-over jars neatly tied down and labelled are good enough. Section cases are not a necessity; learn to manage your bees properly, and at the right time; don't trouble about large producers, but keep smiling, and your bees will pay like mine.—"Satisfied Cottager," *Sevenoaks, Kent, November* 2.

[We shall be glad to avail ourselves of our correspondent's offer to give more of his experiences as a cottager bee-keeper whenever he may have any useful information to impart. The above letter is both helpful and instructive.—Eds.]

RECOLLECTIONS OF THE PAST.

[2687.] Since I began bee-keeping, which was when I was a mere boy at school, I have learned many things. I have learned with sorrow that although a man may be a bee-keeper, it does not follow that he loves bees or knows aught about them. James Tucker retires from the pork trade, buys a country house, keeps dogs, poultry, pigeons, a cow, a garden, and a gardener, and (because the place would be incomplete without them) bees. James Tucker may, in the course of time, come to understand the proper management of the cow, the poultry, the pigeons, and the dogs, and even know an oak tree from an elm—these things do not need to be *loved* to be understood. It is not necessary for complete knowledge (as it is with bee-keeping) that *you* should milk the cow, or feed her in the small and chilly hours of the morning; nor in cultivating Brussels sprouts need *you* trench or double-dig half an acre of ground, working in at the same time half-a-dozen loads of manure which weigh like lead—perhaps with a rusty spade, which soil loves so well that half-a-dozen pounds cling to it with

remorseless affection! It is sufficient if you order it to be done, and see that it is done. But with bees it is entirely different; you must have a world of love and enthusiasm, courage and great patience, aptitude for doing things—often, as it would seem, tiresome things—in the right way and at the right moment (and the "right moment" often will be when you would rather be in bed or having your dinner, or playing lawn-tennis), and above all you must think. No! James Tucker may keep bees, but will never be a true bee-keeper. Would he, with that florid complexion, chase (hat in hand) an absconding swarm through two fields of half-grown wheat, two of rye grass and clover, and one of beans, leaping the hedges between as if he were doing a hurdle race and meant getting in first? Would he in the sunny days of April when the sun is warm but the wind is chill, when the burdened bees, like Christian, get so far that they can see the walls, but cannot reach the gate of Paradise, would he stoop and lift them in?

Unfortunately, I know a good many of the *genus* James Tucker. In keeping with my usual luck, they retire into my neighbourhood, and when they have found out I keep bees they come and purchase a hive, and from that moment (as if they had bought a bear) I am expected to be the bees' custodian—to be at their beck and call—to be positively fond of rushing off in response to telegrams, to hive swarms, only to find on arrival that the bees are simply "hanging-out." Yes, if I were willing I could "see after" all the bees in the neighbourhood—free, gratis, and for nothing!

Sometimes, in a fit of mental abstraction, I promise to go and help a "friend" to extract. He calls, and together we carry round the extractor, and whether it is the exertion or the change of air, I don't know, but when I get there I come to myself, and then I know what an ass I am! Fortunately, this particular friend has moments when he is determined to learn (we all feel like this sometimes), and as one of these moments opportunely arrives, he agrees to do the manipulating and the uncapping of combs while I wield the smoker and turn the handle of the barrel org—I mean the extractor.

The hive—a "Wells"—is situated in a most ridiculous spot. Tall herbaceous plants press against either side. Thus I had to stand in front of one entrance and he in front of the other. It seemed to me a case of scratching a pig's back while he was taking a good grip of your shins! Still, I have been knocked about in the world so much that I didn't care. He—my friend—was an impregnable fortress. I know not how many balls of string he had used to tie up his cloth armour. You could only dimly discern his visage through his mask of veil, and when the quilts were drawn, and he took hold of the first frame, I saw his hand was mailed. The hive was teeming with bees, who began, as is their wont, to cover the frame-ends and to journey, Columbus-like, on a voyage of discovery up the hinged roof (who would have a hinged roof)? Frames filled all the space, so that when the first one was drawn out all the bees upon its one side were rolled, over and over, between the comb and the wood of the hive. Bees object to be so rolled, so they "made for" us, for the hive, and for the herbaceous plants. My friend smiled, and shook them off the comb, knocking the bottom of the frame against the inner wall in so doing. As he knocked, as he shook, as he brushed with a yucca brush each frame, so each bee after being operated upon went neck or nothing for the operator, the hive, and the herbaceous plants, in a vain attempt to operate on *them*. I could hear my friend's breath—for he was becoming excited—coming in short sharp gasps! I could hear the sounds of declining day, the moth's "burr" as he supped at opening evening—primrose flowers—the "cackle" of the fowl as they sought their favourite boughs of trees. I could hear the bees' war-whoop. That noise which they make when they are on the warpath—biz, buzz, biz! but, as a Briton always should, I kept on unheeding. And my friend kept on, too. He said in tremulous tones, "Give me the smoker, old boy." So I gave it to him, and straightway he pointed it—as if it had been a gun—at the bees and blew so hard that the nozzle, as well as the burning charge, fell in among the black seething mass of bees! Quick as lightning I plunged my naked hand in and fetched the burning cloth out, and just then, in accents terrible, my friend shouted, "I'm stung! I'm stung!" and immediately after, "They are getting into my veil. Help! Help!" And straightway he made for the house. And when I had fixed things up a bit I took the half-dozen frames which had been taken out, and followed after. And there I found him wantonly murdering bees! So I ordered him to desist, and, having taken his jacket off, I found almost a "cast" of bees clustered underneath it, which I took and shook out by the hive. Then I ran him about the garden, knocking the bees off as we went. I would knock a few off behind the laurels, then we would run like anything to the lilac, knock off a few more, and so on, till we were free. It was now nearly dark, so we made haste to extract the honey taken. This took time, for my friend would be *dragging* the cappings off, and just when half the frame was done he would suddenly stop and stamp heavily on the ground, to dislodge imaginary (or perhaps real) workers, or he would as suddenly stop, and, saying words unutterable, would wriggle about like snakes, or would thump his body so vigorously that the morning must have seen him black and blue. And ever and anon bizzy (please mind the spelling, Mr. Type-setter) bees would wander from a frame, from the interstices of our clothes, or from a pocket, and perambulate the kitchen floor uttering and constantly repeating their war-cry, "Biz, buzz, biz," or, tired of life—as they had now become—

would eject themselves into the gas. I do not know if I have made a discovery, but certain it is bees are ventriloquists. For sometimes we heard a loud "biz," and my friend would stake large sums of money that the sound proceeded from the interior of his trousers. Again "biz,' and I began to think it might proceed from mine. Then, in a little while, off would go my friend's hat and veil in less than the twinkling of an eye, and soon there was only one eye left to twinkle with. A shadow—a dark, fat shadow—might have been seen touching the edge of the corona, and then slowly advancing, there became a total eclipse of the other, save for one slight crease.

At length the extracting of honey—but not of stings—was done, and such is British pluck that my friend positively refused to let me put the combs back. He said he could see well enough with one eye, and he would see the finish! The hive was opened. Its interior was a *black*-hot roaring cauldron of bees. My friend did not take each frame, and feeling his way with it, gently scratch the backs of the bees with the frame shoulders; they love thus to be scratched. He did not want to put his fingers — now red-hot — down amongst the black-hot bees. No, he took two frames, and letting them down half-way, dropped them in with a bang! Then two more, and another bang. Then again, two——. But here I suddenly left, thinking I heard some one call me from the house, and in a twinkling of the remaining eye, I heard more unutterable language. The bees, busy again, had evidently found gold, and were now sinking their shafts, and when my friend appeared, trembling all over, he said he guessed we better leave the other hive till another evening, to which I reluctantly assented; and so we both betook ourselves to our beds, to dream of bizzy—"biz-buzz-bizzy" bees!—LORDSWOOD.

AWARDS AT THE DAIRY SHOW.

A CORRECTION.

[2688.] I wish to point out a mistake in the list of awards in last issue of the B.B.J. For the class of 12 1-lb. jars of extracted heather honey you have as the winner of first prize Donald M'Geachy, Jennyfair, Oban, N.B, whereas I had the honour to be awarded the first prize. Will you kindly correct this in your next issue?—ROBERT NESS, *Sproxton Apiary, Helmsley, York.*

[We are obliged to our correspondent for pointing out the error, which was entirely ours.—EDS.]

Queries and Replies.

[1581.] Seeing reply to query 1577 (page 439) in last week's B.J., I should feel obliged for your opinion on enclosed heather honey. It was gathered from the heath between Bracknell and Ascot. I remember some time ago Mr. W. B. Webster gave a poor account of this honey in B.J. I secured about 35 lb. in shallow-frames from two hives and am quite sure it was gathered from heather bloom.—E. EATWELL, *Bullbrook, Bracknell, Berks, November* 2.

REPLY.—The sample received is a very fair specimen of mild-flavoured heather honey. Not so good either in colour or consistence as the sample referred to on p. 439. Still it is of good saleable quality.

[1582.] *Bees and Wax-Production.* — My second harvest of honey is usually very dark and flavoured with wild peppermint (probably from Mitcham). 1. I should therefore like to know if it would pay to give this honey back to the bees in a rapid-feeder; then cutting out the combs, extract honey to feed again with, and melt the wax—thus making wax the chief object? 2. Also approximately the amount of wax a hive would yield per week?—W. H. PRIME, *Upper Norwood, October* 31.

REPLY.—1. It would not pay any one in this country to keep bees for the production of wax alone. As an alternative, and far more promising plan, we suggest the making of honey vinegar for utilising honey of such inferior quality as to possess no value for table use. Some useful information on the subject will be found in our report of the conversazione of the B.B K.A., reported on another page of this issue. 2. The idea of keeping bees constantly at work producing wax by extracting honey from combs, and returning it to them as proposed, is entirely non-practical, and need not be thought of.

[1583.] *Bee Parasites.*—Upon opening one of my hives a few days ago I discovered a large number of bees infested with a parasite fixed in the centre of the back between the wings. One parasite only appears to attach itself to a bee at the same time. I have watched carefully, but have never seen a bee fly from the hive or home again with the insect upon it. The conclusion I arrive at is that the bees become apathetic when attacked, but as far as can be seen they suffer little or no inconvenience when clustered on the frame, but it takes provocation to make them fly. The dead bees turned out have no insect upon them and the probability is that the insect shifts its quarters before its carrier's carcass is removed. When touched, the parasite will run about the body of the bee, but soon returns to its old quarters. In colour they are very like the little red "money spinner" spider, but close examination shows that they have a curious crab-shaped back running sharp towards the edges. The insect was first seen in a double hive, on one side only. Since then I have seen a few in two other hives, into which they were probably transferred by means of the feeder, the removal of which from one hive to

another appears to constitute a new danger. Can you enlighten me, through the medium of your paper, so invaluable to bee-keepers, as to the nature of the insect (several specimens of which are sent herewith), whether it is harmless or harmful, and the means you recommend for its destruction? Do you think camphor placed within the hive, or a sprinkling of weak carbolic acid would have the desired effect? Up to the present I have tried no experiment. I may mention that the bees were driven ones (not imported) and from a locality where the same strain has existed for over forty years, so that it cannot possibly be the same insect referred to in recent numbers of the BEE JOURNAL as a new pest imported into the country (*vide* BEE JOURNAL, October 8, p. 408). Your reply will be awaited with interest by several bee-keepers in this neighbourhood as well as by H. THOS. PRECIOUS, *East Dereham, October* 28.

REPLY.—We make no attempt to explain how bees became infested with the parasites, but there is no doubt whatever as to its being the *braula cœca* referred to and illustrated in our issue of the 8th ult.

[1584.] *Experts' Certificates for South African Bee-keepers.*—Would you kindly let me know by what means I can obtain an expert's certificate of the British Bee-keepers' Association, as I would very much like to get one, but being in Africa I cannot attend examinations in England? Are there any means by which I can obtain the same?—J. E. COLLIER, 9, *Princess-street, P. Maritz Burgh, Natal, South Africa, October* 3, 1896.

REPLY.—We have no doubt it would afford much pleasure to the Council of the B.B.K.A. to bestow their certificate on our South African correspondent if any means existed by which the necessary examination could be carried out; but we confess our inability to see any possible way in which it can be done.

WEATHER REPORT.

WESTBOURNE, SUSSEX, OCTOBER, 1896.

Rainfall, 3·4 in.
Heaviest fall, ·95 on 6th.
Rain fell on 22 days.
Below average, ·9 in.
Maximum Temperature, 58° on 2nd.
Minimum Temperature, 28° on 28th.
Minimum on Grass, 23° on 28th.
Frosty Nights, 8.
Sunshine, 137·8 hours.
Brightest Day, 5th, 8·6 hours.
Sunless Days, 3.
Above Average, 20 hours.
Mean Maximum, 50·3°.
Mean Minimum, 38·7°.
Mean Temperature, 44·5°.
Below average, 2·3°.
Maximum Barometer, 30·52° on 1st.
Minimum Barometer, 29·10° on 19th.

L. B. BIRKETT.

Bee Shows to Come.

November 12.—In connection with Ludlow Fruit and Chrysanthemum Society's Exhibition. Two open classes.

November 18 and 19, at Newcastle-on-Tyne.—Northumberland and Durham B.K.A., in connection with the Horticultural Society's Chrysanthemum Show at the Town Hall. Three open classes. Entry fee, 1s. each class. Schedules from J. N. Kidd, 29, Windermere-street, Gateshead. Entries close November 13.

ARTIFICIAL HONEY.

At a recent meeting of the Victorian Bee-keepers' Association, at which the members discussed the subject of imitation honey, which is said to be "flooding the Melbourne market," Mr. Field, a practical chemist, gave an account of some analyses he had made of samples of both pure honey and this imitation. He showed the members a simple method of testing what is pure and what manufactured honey, by adding a little pure alcohol to honey or its imitation dissolved in an equal volume of water. This solution, on being shaken up with alcohol, remained nearly clear and limpid in the case of honey, but in the case of the imitation it at once became opaque like dirty milk, due to the deposition of dextrine from the starch sugar. Mr. Field stated the samples were made from corn syrup or starch sugar, a cheap, crude material obtained from potatoes and sulphuric acid, or from maize, or even rags and sulphuric acid. This was composed of glucose and dextrine, and was the principal constituent of the samples of manufactured honey he had examined. The chairman stated he had examined several samples with the polariscope, by which means the fraud was easily detected. —*Farming World.*

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

R. DYMOND (Southgate).—*Drone-cell Foundation.*—If left to themselves, bees usually build drone-comb in surplus chambers, because of requiring comb at the time for storage purposes only, and in view of this, drone-cell foundation was common a few years ago, but it has dropped out of use for various reasons, and we do not know who makes it for sale now. Mr. Wm. Raitt, of Blairgowrie, also made a special-cell foundation mid-way between worker and drone size, but this, too, is not often heard of, though it may still be manufactured by his son, who now carries on the same business.

Several Notices to Correspondents and Report of Lanarkshire B.K.A. Show will appear next week.

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION.

CONVERSAZIONE.

(*Continued from page* 443.)

Mr. Cowan wished to congratulate the meeting on the large attendance, which he noticed included some very old bee-keepers, one of whom, Mr. Martin, was among the first few connected with the Association at its commencement. He remained a member for a long time afterwards. Mr. John Walton (also present) was as old a member as Mr. Martin, but the latter had not favoured their meetings with a visit for a long time, while Mr. Walton had, he believed, attended every show held in London. He (Mr. Cowan) was very glad to meet these two gentlemen again, and to find that their interest in the cause was unabated. Mr. G. Wells, too, was also specially welcome as the inventor of the system of keeping two queens in one hive. He hoped that meeting would be the means of introducing in person many bee-keepers previously only known to one another by name.

At this stage of the proceedings an adjournment was made for refreshment.

Upon resuming, Mr. Cowan occupied the chair, Mr. Jonas being compelled to leave, and said that he thought it would be of interest to discuss the question of selling honey from the tradesman's standpoint; in other words, to know whether grocers had a preference for any particular kind of package. No doubt many present had dealings with tradesmen supplying the retail trade, and could give information on the subject.

Mr. Wm. Woodley said he supposed the question related more to extracted than to comb honey. With regard to the latter, he could speak from extensive experience. He had found that grocers preferred glazed sections, and were quite willing to pay a shilling per dozen more for them than for unglazed ones. With regard to extracted honey, he thought they liked upright tie-over glass jars rather than those with the screw-cap.

Mr. A. D. Woodley would have liked to have had the benefit of the experience of other counties, as he and his relative who had just spoken were only two of many people who sold honey. He could, however, endorse what had been said regarding the grocers' preference for glazed sections, but a great deal depended on how they were turned out. There was often considerable difficulty in getting the members of the local association to put up their honey in a saleable form. Sections were sometimes glazed in by members in a rough, clumsy, and not at all clean style, which, when grocers had bought unseen beforehand, they, of course, objected afterwards. He was not now speaking of experienced bee-keepers, but it was frequently done; and thus agents preferred to get their honey direct from the few who could be relied upon for sending it out in proper saleable form. Most tradesmen did not object to pay a shilling per dozen extra to have sections glazed and labelled. With regard to bottles, the screw-cap or tie-over sold equally well, a shilling a dozen more being paid for the screw-cap than the tie-over jar. The latter sold at 9s. per dozen, and the former at 10s. He was sure it was a great advantage to use the County Association label. Buyers recognised the label at once, and accepted it as a guarantee of quality, while very few complaints had ever reached their Association about honey sold under that label. Only in one or two cases had complaints been made, and they were enabled to deal peremptorily with the culprits.

Mr. Martin (Expert of the Bristol Association) was in favour of the screw-cap jar, which could be sold more readily at 10s. per dozen than the tie-over at 9s.

Mr. W. H. Seymour said his experience in selling was that grocers preferred ¼ lb. and ½ lb. bottles with the screw caps to 1 lb. ones.

Mr. Weston asked whether it would not be possible to put on the market a smaller section, such as could be sold and put on tables at restaurants for about 3d.? He believed there would be a large sale for small pieces of honey in comb like that. It could be introduced at the popular restaurants in London.

Mr. Hooker said the suggestion was impracticable, as the bees would not properly complete such small divisions; moreover, they could not be supplied by the bee-keeper at a remunerative price. They all knew that 2-lb. sections were filled by bees nearly as quickly as 1-lb. ones.

Mr. Webster agreed, and said the method had already been tried, a firm having supplied four sections to the pound, but they could not continue it.

Mr. Carr had long been anxious to know how the trade regarded the screw-cap jar. It was curious to notice how seldom honey was seen in a grocer's window put up in screw-cap jars. He had also observed that in the case of jams and preserves, tie-over covering of vegetable parchment was used in preference to any other. All the well-known packers, such as Crosse & Blackwell, putting up their wares in that form more largely than any other. He had always held that the screw-cap was the handiest of all covers for the housekeeper, being easy to take off and put on, and no trouble required to keep the honey in condition for use. Tradesmen, as a rule, greatly disliked to handle honey unless it was put up so as to be free from any leakage, otherwise it was sticky to the touch, and necessitated the immediate washing of hands after handling it. Some producers, in order to overcome this trouble, were adopting the plan of wrapping up every section or jar of honey in a separate piece of wax paper. Mr. Jas. Abbott, of Abbott Bros.—whom all old

bee-men would remember—carried out that system. All his sections of honey were covered with a separate wrapping. Thus any leakage was confined to the section where it occurred. Mr. Taylor (of Hathersage), who was present, informed him that he followed exactly the same plan of wrapping. It looked neat and pretty, and the honey could be handled without discomfort by any one. He (Mr. Carr) had been visited at the B.J. office a few days ago by a bee-keeper who had with him a jar shaped like a tumbler glass, in which was a piece of comb surrounded by honey, on the American plan, brought here some years ago. For honey put up in this way his visitor said he had London orders for as much as he could supply. If this was an attractive way of supplying honey it might be adopted with great advantage as affording an excellent means of disposing of incomplete or broken sections. At any rate, no opportunity should be lost of cultivating the goodwill of the tradesmen who could deal with bee-produce.

Mr. W. J. Moore, speaking as a grocer and bee-keeper, said that a great many people preferred the tie-over jar because they could use it for making jam afterwards; the screw-cap jar they had not found to be air-proof, and the jam in consequence went mouldy. He always preferred tie-over jars for trade purposes. As regarded boxes and the packing of honey, he thought grocers preferred a cheap non-returnable case. For himself, he had never had a single mishap with honey packed and sent him by Mr. Wm. Woodley.

Mr. Seymour said he had used the globe-shaped jar with a cork, and sold his liquid honey chiefly in ½-lb. and ¼-lb. jars, the ¼-lb. taking best.

Mr. Scattergood thought the objection to screw-caps was, as a rule, largely owing to the "caps" not being well made. If not carefully put on they were liable to strip.

Mr. Hooker thought there were probably two classes of caps at different prices. He quite endorsed what had been said as to cheap screw-caps coming off frequently.

Mr. Taylor, speaking of the wrapping with wax tissue paper which had been referred to, said that it was a most useful wrapping, for, however sticky the article covered, the paper would always come off clean; besides, being transparent, the comb, if in sections, and the label and contents, if in glass jars, could be seen through it, which was important he thought. He could pack a hundred sections or jars in this paper for a shilling, while the cost of glazing a dozen was not less than 1s. 4d., that was including the cardboard case. Thus there was a considerable difference in cost. He believed that grocers and the better class of people preferred screw-cap jars if well made, the only drawback being the price. If the screw-cap jar could be produced at anything like the tie-over price, the former would be preferred; but there was no less than 6s. a gross difference between them.

Some discussion then took place as to the actual weight of honey the nominal 1-lb. jar would hold, one bee-keeper declaring that he always exhibited in a jar supposed to be a 14-oz. one, but which really held 16 oz. of honey. He also stated that he sold more of his honey in ½-lb. and ¼-lb. jars than in any other form, as persons who could not afford to spend 1s. on honey readily bought jars at 4½d.

Another gentleman—who sold his own and other people's honey across his counter—said that his customers seemed to like the tie-over jar, and his plan of giving a penny for each return jar generally induced a second visit from purchasers. The wide-mouthed or tumbler-shaped jar, used for jam, having been mentioned, Mr. Hooker observed that there would be more difficulty with honey than with jam, the first-named being much more searching in its nature, in fact it seemed to ooze through almost anything. But if the cork wad—which was part of the screw-cap arrangement—was passed through hot wax before placing on the jar for screwing down it would effectually prevent leakage. This view was endorsed by other speakers.

The Chairman said the discussion had been a very interesting one. With regard to using bottles with screw-tops there was not the least doubt that, if no limit was placed to the expense, an air-tight jar could be obtained with little trouble, but the question of cost governed the matter, and the B.B.K.A. had adopted what was considered the best form of honey jar, which was of the shape now generally used. The difficulty of leakage was not a serious matter, because it could be overcome. They had sent over to the Chicago Exhibition 1,000 lb. of honey in glass jars, with selected caps having hard tops, which cost a little more than usual. All the cork-wads in the caps were dipped in molten wax, and, in addition, every jar was covered with wax-paper. That exhibit reached Chicago without a single leakage. Mr. Hooker, who was present, saw it at the World's Fair, and could tell them that the honey reached its destination in perfect order. With regard to sending comb-honey wrapped in sheets of wax-paper, he knew that plan worked well, having had honey sent to him from Russia nine or ten years ago wrapped up in paper like that before them, and it reached him in good condition. As to the difficulty of using screw-cap bottles for jam, he would say the secret of preventing jam going bad was to destroy all microbes in the bottles in the first place, and then cork them up in such a way that the air could not get at the contents. By holding a lighted sulphur match for a moment or two in the jar before the jam is put in, the sulphuric acid gas would drive out all the air, and the jam could then be poured in. Then hold another sulphur match above the top of the nearly filled jar, and let it burn a second or two, then promptly put on the waxed cork wad and screw it down. The jam dealt

with in this way would never turn mouldy. It was simply a question of destroying germs and microbes, and if some precaution of that sort were not adopted jam would generally be spoilt, because corks were porous. There was another question, namely, the merits of English and French bottles. The B.B.K.A. considered that matter very carefully some years ago, and the reason why French bottles were preferred was because these were more uniform in shape. The edges of the French bottles were ground and finished more neatly than the English, some of which were ground properly and others not ground at all. They should patronise English made bottles, even if they were a few pence more; but it was important that the goods should be well turned out. The subject of very small, ½ lb. or ¼ lb., sections had been referred to. There had always been a hankering after these, and the experiment of producing them had been tried; but it was soon found that they would not pay. When it was known that 2 lb. sections could be filled nearly as quickly as 1 lb. ones, and could be had at nearly the same price, it was obvious that ½ lb. and ¼ lb. sections were impracticable. Mr. Carr had spoken of Mr. Hoge and his honey, comb-honey being put up in glass jars surrounded by liquid honey on the American plan, but when that plan was introduced here from America the comb-honey brought over was proved to be surrounded not with honey, but glucose, and in consequence the American product shown was expelled from the Health Exhibition some years ago, as many among the audience would remember. From that time American honey bore a bad name on this side of the Atlantic. He was sorry if any similar methods were likely to be adopted, because they allowed too much opportunity for fraud, and he hoped bee-keepers would not countenance them.

Mr. Weston showed a photograph of a portion of the trunk of a tree at Rickerscote, Staffs, in a hollow of which a colony of wild bees had established themselves and built comb.

Mr. Ned Swain exhibited specimens of light and dark extracted honey gathered by the same bees. These several exhibits were inspected with interest by the company.

Mr. Scattergood next drew attention to the fact that the Chairman (Mr. Cowan) was understood to be starting shortly on a long journey—namely, to California—and that he would probably be spending some months on the continent of America. No doubt he would while there be on the look-out for everything likely to interest bee-keepers, and to promote the bee-keeping industry. He (Mr. Scattergood) felt sure that the meeting would like to join him in wishing their chairman, and also Mrs. Cowan—who, he understood, would accompany her husband—a prosperous voyage and a safe return to their many friends in this country. He asked the company to express their concurrence in that proposition.

The audience rose and loudly applauded.

The Chairman was very much obliged by the kind response to Mr. Scattergood's motion. He was never so happy as when amongst bee-keepers, and was intensely gratified to see that evening so many more present than usual. Mrs. Cowan and himself were going to spend the winter in California, where one of his intended tasks was to start an apiary for an Agricultural College in a fruit-growing county, some of the members of which had invited him to do so. He had already sent out books and other information on the subject. First of all he would make himself acquainted with the resources of the county, and if they were suitable he would be glad to start the College in so useful an industry, and give the necessary advice. He was quite sure that wherever he went bee-keepers would receive him as the representative of Great Britain. The last time he visited the States and Canada he received a hearty welcome, and was treated with the greatest cordiality, which he did not doubt would be repeated. Probably he would not be at the service of the College till the spring, but whatever he saw that was new and of interest would be treasured until he met them again.

(We are obliged to defer the conclusion of report till next week.)

LANARKSHIRE B.K.A.

SHOW AT RUTHERGLEN.

The second annual show, held under the auspices of the above Association, took place at the Town Hall, Rutherglen, on the 15th ult. According to the opinion of experts it was one of the finest that has yet been seen in Scotland, there being a splendid display of honey of excellent quality.

The show was formally opened by Provost Mitchell, who expressed the pleasure it gave him to be present at the opening ceremony, and heartily welcomed the Bee-keepers' Association to their burgh. After some further complimentary remarks, the Provost declared the show open.

After the judging had been completed, luncheon was served in the Old Council Room, at which the Rev. R. McClellan, of Inchinnan, presided. The proceedings were of a satisfactory character, the several speeches after luncheon conveying mutual congratulations on the excellence of the show and the useful work done by the Lanarkshire B.K.A.

The official proceedings closed with a conference of bee-keepers.

The duties of judging were undertaken by Mr. Jas. Johnston, Touch, Stirling, and Messrs. Andrew Jamieson and A. Niven, Beardswood; the following being their awards:—

OPEN CLASSES.

Display of Honey (any weight).—1st, M. Paterson, Larkhall.

Display of Honey (not over 100 lb.).—1st, Wm. Hogg, Castle Douglas; 2nd, Walter Rae, Biggar.

Honey-comb Design.—1st, J. Greenshields, Larkhall.

COUNTY ONLY.

Super (non-sectional, not over 25 lb.).—1st, W. Rae; 2nd, Jas. Cowie, Lesmahagow.

Super (non-sectional) Heather Honey (not over 25 lb.). — 1st, J. Greenshields; 2nd, Andrew Brown, Blantyre.

Super, Heather Honey (not over 15 lb.).—1st, M. Paterson; 2nd, M. Cowie.

Twelve 1-lb. Sections. — 1st, W. Ormiston, Biggar.

Six 1-lb. Sections.—1st, A. Boa, Biggar; 2nd, W. Ormiston.

Six 1-lb. Heather Sections.—1st, A. Boa; 2nd, J. Paterson, Pollokshields.

Single 1-lb. Section.—1st, Walter Rae.

OPEN CLASSES.

Twelve 1-lb. Jars each of Extracted Clover and Heather Honey.—1st, Wm. Hogg.

Three 1-lb. Jars Extracted Honey.—1st, A. Boa; 2nd, A. Oliver, Jedburgh.

Three 1-lb. Jars Heather Honey.—1st, W. Rae; 2nd, J. Paterson.

Six 1-lb. Jars Granulated Honey.—1st, A. Brown; 2nd, A. Boa.

MEMBERS NOT OWNING MORE THAN THREE STOCKS.

Three 1-lb. Sections.—1st, Lord Ruthven; 2nd, Geo. Paterson; 3rd, R. Lindsay.

Three 1-lb. Jars Extracted Honey.—1st, J. Greenshields; 2nd, R. Lindsay.

Three 1-lb. Jars Heather Honey.—1st, A. Brown; 2nd, M. Paterson; 3rd, W. McGregor.

OPEN CLASSES.

Observatory Hive (stocked).—1st, J. Shaughnessey.

Most Complete Frame-hive.—1st. J. Paterson.

Collection of Bee-appliances.—1st, Austen & McAslan, Glasgow; 2nd, J. & R. Thyne.

Comb-foundation (brood and super) made by Exhibitor.—1st, David Raitt, Blairgowrie.

Useful Invention.—1st, W. P. Meadows (swarm-catcher).

Frame-hive (made by amateur).—1st, David Stevenson, Larkhall.

One Each of Clover and Heather Honey as follows:—Supers (not over 10 lb. each), 1-lb. Sections, and 1-lb. Jars Extracted.—1st. A. Boa.

Super Heather Honey.—1st, T. Anderson; 2nd, Jas. Niven, Larkhall.

Super (not over 10 lb.).—1st, W. Hogg; 2nd, A. Brown.

Three Bars Comb-Honey. — 1st, W. McGregor.

Three Shallow Frames Comb-Honey.—1st, W. Hogg; 2nd, M. Paterson.

Bees Wax.—1st, Jas. Platt, Larkhall.

Most Successful Exhibitor. — A. Boa — (*Communicated.*)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS *of the 'British Bee Journal,' 17, King William-street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to "*THE MANAGER, *'British Bee Journal' Office, 17, King William-street, Strand London W.C."*

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

THE DOUBLE-QUEEN SYSTEM.

MR. G. WELLS'S REPORT FOR 1896.

[2689.] The receipt of several letters reminding me that no report for 1896 has yet appeared from me shows that the double-queen system of working bees has still a good deal of interest for some readers of the B.J. Having, therefore, now found time to square up accounts, I venture once more to send you particulars. But, lest any should be disappointed to see so moderate a result compared with some other seasons, I hasten to explain that it has been caused through the ravages of foul brood. I intended to have worked seven double-queened hives this year, but, owing to the heavy mortality amongst the bees during the winter of '95-6—heavier than I ever remember before—nearly all my colonies were very weak in bees in the spring. Taking the stocks all round, there were only bees enough in each compartment to cover two frames, and when the fruit trees were in bloom I was obliged to unite the bees in order to get any surplus honey at all from that source. By this means I just managed to fill three hives with six queens and sufficient bees in each compartment to cover seven frames. I gave a rack of 1-lb. sections each to two of the hives, and put a box of shallow frames on the other, and all the hives were worked right through the season with only seven frames for each brood-nest. I certainly had a fourth hive, in which there was only enough bees to cover one frame on each side of the dummy, and I thought that so few bees were scarcely worth saving, but I wanted to see what could be done with so few bees in the spring, with the two-queen system. At one time it appeared as if they would dwindle right away, but I packed them very warm and still kept only one frame for each queen. The bees increased but slowly, and at the end of May only covered two combs for each queen. From that time, however, they began to increase very rapidly, and soon fourteen combs were covered in the two

compartments mostly well filled with brood. A box of six shallow frames was put on, and the bees commenced to store surplus honey in these at once; then more shallow frames were added at intervals as required. In the end I got about 30 lb. of surplus honey and sufficient stores from such late plants as borage, melilotus, and Chapman honey plant, to stock themselves with food for the winter in seven frames, each with plenty of bees. This result from so untoward a beginning argues well for the two-queen plan. One of the three first-named hives swarmed, and I made three nuclei from it after the swarm had come off. I also bought some late casts. These, along with a few lots of driven bees added, enables me to go into winter quarters with seven hives full of healthy bees and stores, and fourteen good queens with them.

My financial position with the bees for the season of 1896 is as under:—

99 1-lb. Sections, say at 8d. ...	£3	6	0
357 lb. Extracted Honey, say at 6d.	8	18	6
21 lb. Beeswax, say at 1s. 6d. ...	1	11	6
	13	16	0
Deduct total expenditure during the year	3	15	5½
Balance for labour...	10	0	6½

All the surplus honey (less 30 lb.) was taken from three hives, bearing an average of 142 lb. per hive. If it is preferred to call each hive two colonies, the average is 71 lb., with 30 lb. added from the weak lot mentioned. Most bee-keepers in this district seem satisfied with their bee-doings for 1896, many being quite hopeful for the future. I again repeat my offer of last year, to send seeds of melilotus and Chapman honey plant (free) to all who forward a stamped addressed envelope.—G. Wells, *Aylesford, Kent, November* 5.

SELLING HONEY.

KEEPING UP PRICES.

[2690.] I think "A Disappointed Cottager" (p. 436) has some reason to complain, when good section honey fetches only 5d. per pound. I wonder how long it will be ere the price drops to the price of golden syrup (2½d. per pound)? But it's no use bemoaning the matter without putting forth a practical remedy. In the first place, a demand for honey needs to be created, by making known its virtues as a food. Next, I think that if honey shows or fairs were held in the large industrial centres, honey would sell readily at a good price. Townspeople are extremely ignorant on the subject, many of them never having seen pure honey in their lives. I also consider that bee-keepers, by selling too cheaply, cause their product to be despised. In selling honey to grocers wholesale they should stipulate that it be retailed at not less than a certain price. Many grocers go in for "cutting," or selling at nearly cost price; the result is that other tradesmen will not push the sale of goods on which there is only a small profit, and the producer has to further cheapen his wares.

Without knowing the exact or even approximate amount of honey produced in these countries annually, I am of opinion that if placed properly on the market it would not supply the demands of one single industrial county such as Lancashire or Yorkshire.

It wants to be got up attractively, and well advertised. Above all things it must not be made too cheap; 1s. per pound is the lowest price that good section honey should be retailed at, and 2d. per lb. would be a very fair profit for the dealer to get out of it. If butter be worth 1s. per lb., I am quite sure honey is worth double. It merely wants its merits as a food advertised, not in small county towns but in large industrial centres, and this I have not yet seen done. But cheapness is a mistake.—W. J. Farmer, *Yorks.*

[On the broad principle of hearing all sides we willingly print the above communication but it is quite certain that our correspondent either lacks experience, or has not been in close touch with events in the bee-world for the last few years.

Who, for instance, imagines for one moment that "good sections" will only bring 5d. per lb? In the same way, what honey-producer has so large a demand for his wares that he can "stipulate" the price at which his honey must be sold by the retailer? Then as to holding honey fairs and advertising the merits of honey in large industrial centres, we ask who is to undertake the one and pay the cost of the other? It is idle to talk of these schemes in view of their non-practical character. Finally, what is the good of ventilating schemes to popularise honey—even supposing that practicable plans are formulated—when the object of it all is to keep up prices? No; our readers as a body will agree that the first object of the bee-man—after learning how to harvest honey in plenty—is to popularise its use by offering his product at a fair paying price. To maintain high prices obviously limits both sale and consumption.—Eds.]

CONTENTED COTTAGERS.

[2691.] May I be allowed to say a word to "A Disappointed Cottager" (2670, p. 436) as to what I have done this year, and how I began: I started bee-keeping in 1884 with one skep, but same year made two frame-hives out of old soap-boxes; got some driven bees and fed them on syrup. The whole cost was about 10s. 6d. The following year I got enough honey to pay my former expense and buy one new hive; the honey I sold among my neighbours at 1s. per lb. I have had some

poor years, but my bees have given me enough surplus funds to purchase five good hives and other appliances, and during 1896 I have taken 145 lb. from four hives, and sold 135 lb. at 8½d. per lb. (carriage paid by purchaser). Now, sir, although the price is gone down a little, I consider myself a contented cottager. My garden measures about three square poles. —JOHN COLE, *Ivybridge, Devon.*

MORE JULY DAYS.

[2692.] This has been a year of extremes. For the past two months it has rained nearly every day. Days of dripping wet, till it became wearisome even to those of us who fully realise that without these spells of moisture there would be no oaks like the Queen's oak in Sherwood Forest, or the Knightwood oak, or the immense beeches in the New Forest; nor, for that matter, the beauty of these July days. It is not the summer shower which feeds the roots of these tall larkspurs or these amber roses, that have clambered 20 ft. high, and now look in at the lattice—flower and buds and fresh green foliage against the old grey-stone coping. Nor is it the summer shower that enables the dark ivy's many arms to reach the roof and threaten to erase the date of the house, carved in Oxford limestone, 1631, as it has already the brass tablets with the Latin inscriptions which are over every ancient doorway. The summer shower does but lay the dust, and refresh the great giant earth, the larkspur sprays, the opening rosebuds, the leathery ivy leaves, or keeps alive the yellow fumitory, the stonecrop, the gillies, and the toad-flax that grow in every crevice of the wall. The summer shower, which, with a vapour bath, raises the listless leaf, and washes the chalk from the clogged lotus leaves by the "White-leaf" Cross (a great cross cut, in Roman times, on the breast of the hill) is, indeed, delicious, but it is these wet, dripping, autumn days that prepare the way, or lay the foundation of the summer's grandeur. Let us therefore submit, if not with equanimity, at least with uncomplaining endurance. I never remember—perhaps there never was—such a summer. Such extreme heat, such luxuriance of light—makers of broad breadths of flowers. Day by day, as I arose and leaned on the broad sill of the window (broad, because the walls are 3 ft. thick) and looked out through the iron bars (happily unnecessary in these days), it seemed to me that each morning was fairer than the last. Day by day I said, "Well, I think this is really the finest day we have had," till it passed into a joke, and I do not know now which was the best. During this time there was no indecision on the part of the bees, for they knew instinctively, as I did, that no sudden tempest would overtake them. In and out of the hives so fast that the air seemed thick and heavy with bees. A swaying, surging, crowd, a dim roar of voices, as they sought points of vantage to see the King of Days go by. There were no guards at the doors now. Guards are only necessary in times of hunger, times of famine. The guards had joined the ranks of those who gathered in the sweets that the King had scattered with a lavish hand as he went by. The King of July days! As warmth stirs and invigorates the human frame, so the great heat increased the pulse and stimulated the life of plant and flower. There was a concentrated stream of bees over the high wall towards the lime avenues — they had deserted the clover for the limes. Clover is shallow-rooted; it was parched and dry. Limes had taken a deep grip of the earth. They were drinking now of stored October moisture. They stretched out their great, flower-laden arms, joying in the sun and luxuriance of warm air and light. The bees sang all day long among them till their honey-combs at home had to be propped with pillars and buttresses of wax—such the weight of honey. It was a July designed for bees and butterflies and flowers, a chance for them to increase to the uttermost, the rare opportunity to take a new grasp of life and become again abundant. It has gone! They have all gone! The bees, the butterflies, the flowers. The leaves have fallen, rotting, from the trees. Day by day dripping, blinding rain, and now fog and bitter frost; but as surely as there are white rootlets issuing from these blue-bell bulbs into the moist earth at the base of this huge oak, so surely will there be more July days.—LORDSWOOD.

AWARDS AT THE DAIRY SHOW.

A CORRECTION.

[2693.]—In your account of the Conversazione of the B.B.K.A. appearing in the last issue of the B.B.J., Worcestershire is mentioned as a non-winning county. This is too bad of you, Messieurs Editors, for I am proud to say Worcestershire was awarded a second prize in the class for the most instructive and interesting exhibit of any kind connected with bee culture.—PERCY LEIGH, *Beamount, Stoke Prior, Worcestershire, November 9.*

[We very gladly print the above correction. But as all guilty persons are only too pleased to offer an excuse for their fault if they can find one, may we not venture to cast just a little blame on our correspondent himself for not promptly correcting the speaker (whose mistake it is) on the spot? Those who know Mr. Till will at once acquit *him* of any intentional injustice to Worcestershire, which county, as it turns out, beat all the others so far as winning a 2nd prize with its single entry! And Mr. Percy Leigh is fully entitled to the honours of the occasion. For ourselves, we relied on the shorthand writer's notes for our *copy*, and did not know that Mr. Leigh was present at the Conversazione till we saw his name in the "attendance book." While

on the subject of "corrections," we (by request) make another, viz., in the class for *Heather Sections*, Mr. Macdonald's address (1st prize winner) is Kingussie, Inverness-shire, not Aberdeenshire, as printed on page 432.—EDS.]

CHEAP CARRIAGE FOR HONEY BY RAIL.

[2694.] Mr. R. Brown (2764, p. 437) asks why bee-keepers do not take advantage of the "Owners risk rate" in sending honey by rail? Well, for my part I shall do my best to do so in future, but I should like to ask why the dozen jars of honey returned here from the Dairy Show should cost 3*s.* 7*d.*? And by the way, the package has come to the wrong place, for instead of being sent 100 miles south, it has been sent over 200 miles north. The *box* is mine, with my number upon it, but the jars of honey inside had another number upon them. Surely the responsible people at the Dairy Show are at fault here? Comparing the numbers with those in the catalogue I was able to communicate with the owner, and am wondering if he will be able to obtain any redress for the unnecessary expense of carriage he has been put to.—R. NESS, *Hon. Sec. Helmsley and District B.K.A.*

NUMBERING HIVES.

[2695.] I think Mr. Brice's "Doings in the Past Month" will be very interesting to a large number of your readers, as other articles from the same pen have been in the past. I have tried numbering my own hives consecutively, as mentioned in "Doings" (on page 422), but all my numbers are upset when I come to "join up" in the autumn. It would be a great help to a lot of bee-keepers if it was explained in next "Doings" how the numbers are arranged to avoid confusion.

Supposing Mr. Brice loses a hive during the winter, does he fill its place with a swarm in the spring, and does the swarm take the number of the old hive? If so, the slip of paper kept for indoor reference will want altering accordingly.

I have no doubt your contributor has some method which works all right, and which, if known, would be useful to all of us.—W. W., *Yorks, November* 3.

SELLING DISEASED STOCKS.

[2696.]—Thanks for your advice in answer to my query No. 1575 (p. 428) *re* "Danger of Buying Stocks of Bees." Everything has been burnt, except the stand the hive rested on. The hive itself was old and hardly worth saving, and the brood chamber literally stank!

I found out from the seller that he had previously been troubled with "foul brood," and that his method of cure had consisted in cutting out affected part, and the use of salicylic acid. He seemed to think I was premature in burning the stock, although he was told that it was done by your advice, and also that I ought not to have done so without giving him an opportunity of examining it. As a matter of fact, I burnt it at once, as I feared it might be some time before such an examination took place.

Being quite a beginner in apiculture, I felt rather diffident about offering any remarks concerning the disease and the drastic measures it appears sometimes necessary to take to check it, so I procured a copy of the Board of Agriculture's leaflet and sent it to the original owner of the martyred bees.

Referring to an earlier query of mine, No. 1511, on page 287, I would like to tell you that the stock there spoken of appears to have good prospects of wintering well, also, that when packing it I noticed some empty queen cells. May I take this as evidence that the bees have re-queened the hive of their own accord? [Yes.—EDS.].—M. W. S., *Slough, November* 6.

COUNTY LABELS AT THE DAIRY SHOW.

[2697.]—On some of the exhibits at the above show I noticed the county label. In my opinion this should not be allowed. The county labels look very nice and proper on exhibits at a county show, but certainly out of place at an exhibition open to all comers. I hope the judges will not for one moment think that I insinuate the presence of a label would in any way influence them in their awards.—PERCY LEIGH, *Beemount, Stoke Prior, Nov.* 9.

[County labels, or any label or mark by which exhibits could be identified, or even localised, were not allowed at the Dairy Show, and it was with much regret that the judges saw some most excellent exhibits disqualified at the late show on that account. We are, in fact, enabled to say that they expressed a wish to have the reasons for disqualification placed on the exhibits, in order to make the matter clear.—EDS.]

A BEE EXCURSION IN OHIO

ENDING IN A SQUIRREL HUNT.

[2698.] I paid a visit to the establishment of the A. I. Root Company the other day, and was kindly entertained by Mr. Ernest Root, who showed me over their extensive works, and freely explained everything to me. Mr. E. Root, Mr. Weed, and myself went out shooting on the Thursday morning, but unfortunately met with little success. Mr. Weed then suggested that we should go and cut down a bee-tree he had found—said to be about 150 ft. high—growing some distance away in the woods. This agreed upon, we returned to dinner. After which, the horse and buggy being got ready, and supplied with axe, saw, and other necessary implements for

bringing the tree down and securing the bees and honey, we made a start. Arrived at the tree we requested the owner's permission to cut it down: this was declined, but he gave us leave to hunt in the woods. Before starting, however, I took a shot at the place in the tree where the bees were going in and out, and my shot caused a piece of wood to fall down, and it dropped upon a fox squirrel's nest. The animal immediately jumped out and nimbly ran up to the very top of the tree. We peppered away at him with No. 6 shot, but failed to bring the little fellow down, and finding it was getting too hot for him he scampered rapidly down and rushed up another hollow tree, where he evidently knew of a hiding place, into which he went like a shot! Not to be baulked of our game, however, we set to work, and in about half an hour had the tree down, but had to cut it up into several sections before we could get the squirrel out. He was eventually secured by running into a bag held for him. The hard work with the axe was accompanied with much fun and laughter. The bagged squirrel was given in charge of Mr. Weed, who could not refrain from taking a look at him, and finding the little chap coolly washing his face after its late hard work, he laughingly called Mr. Root to "come and have a look." All at once, and seizing desperately at another chance of liberty, our prisoner sprang from the bag, and in an instant was off across a stream, Mr. Weed after it right through the water—the squirrel jumping on ahead—the pursued and pursuer making up the most comical picture I ever saw! Eventually the squirrel scrambled up another large tree which was hollow, and there we decided to leave him in acknowledgment of his pluck and perseverance in the fight for freedom. We returned home very hungry, our total "catch" being a small chip-munk, a species of diminutive squirrel, which we have caged, and which is now a source of much amusement to Mr. E. Root's little boy. I hope to be back in England by the middle of November. I am staying over to see the election of next U.S. President.—E. H. TAYLOR (*of Welwyn, Herts*).

Boston, Mass., October 26.

Queries and Replies.

[1585.] *Leaving Stored Supers on for Winter.*—I am in trouble just now because of not being able to remove the surplus honey from my eighteen hives. The weather was wet and stormy all the time the honey should have been taken off, and at last I had to go round on my usual journey for condemned bees, &c. Then, after finishing that job, the weather was still cold and wet—utterly unfit for such work as taking honey. Now, though I am much in want of money, the stores gathered by my bees is all on the hives. Can you advise me, please, what is the best plan to take in this state of things? Will it keep well through winter if left on the hives, and could I extract it in the usual way about February or March next?—H., *Pwllheli, November* 7.

REPLY.—We certainly think it would have paid our Welsh friend to have postponed his driving expedition until such time as he had got the surplus from his eighteen hives indoors. In these days of super-clearers there seems no sound excuse whatever for any one pleading either bad weather or want of time as a reason for not getting honey off hives; and when the bee-keeper is much in "want of money," as stated, the absence of effort at the right time is to us unaccountable. It is, moreover, not easy to say what is best to be done. The likelihood is that much of the honey will have granulated in the comb if left where it is until March next, unless the bees cluster on it, in which case breeding will be started among the super combs in early spring, and the trouble will be worse than ever. We should remove some, at least, of the combs now; get them into a warm room for a couple of days, and try extracting. If this succeeds, continue until more or less is taken from every hive which can spare a few combs.

[1586.] *Disturbing Hives in November.*—I lately bought three stocks of bees in bar-frame hives, and the sender packed them with a board fastened over the top of the frames. As it is late in the season, which would be best—cover the boards so that no draught can enter, or take them away and cover with carpeting in the usual way? I am afraid if I pull them about too much the queens may get "balled."—SAINFOIN, *St. Albans, October* 30.

REPLY.—For several reasons we advise removal of the boards from frame-tops after receiving stocks of bees bought in frame-hives. Some damage may have occurred in transit, food may not be right, or other contingencies have arisen which a slight inspection would set right. Besides, warm quilts will make a better winter covering than boards, while, if the removal and inspection is carefully done, there need be no fear of "balling."

[1587.] *"Wells" Hives and Methods.*—Your preliminary remarks, in reply to query 1506 in B.J. for July 9 last (page 277), in answer to my too numerous questions were rather confusing, and I think you were a little hard on me. Commencing with the remark, "We cannot promise success in working such a 'Wells' hive as the one described," you proceed to say: "And however *we* might manage to overcome such difficulties as present themselves in the 'Wells' hive referred to, it cannot be easily made clear to one who is manifestly inexperienced in bee-management." I may say my hive is precisely as recommended by Mr. Wells, and was made and sold as such by a well-known manufacturer.

Hitherto, however, the shallow-chamber underneath has been practically a fixture, as there were neither porch nor entrances to the standard-chamber above, which the hive should have had. I think of making a shallow dummy the thickness of six frames to place in centre of shallow-body with the ordinary standard perforated "Wells" dummy resting on it above. This will leave seven frames on each side, which I imagine will be the most that will be ever required. Then, as I may often wish the shallow chamber completely away, with the standard frames close down on floor-board, I propose to fit a platform or second floor-board under the standard frames in *groove made for the shallow frames*, leaving an entrance in the platform of some sort. Please be good enough to give me advice as to size and shape and position this entrance should occupy, and if a board should slope from same to lower floor-board to assist the bees to travel, and if this attempt is likely to be a success?—Thanking you in anticipation, ALBERT J. CONDER, *Ipswich, November* 9.

REPLY.—On referring to reply given in our issue for July 9 last (page 277) we really cannot see in what way we are even "a little hard" on our correspondent. The replies are brief, but as he admits, were rather "too numerous" coming at a busy season. And for the "confusion," does it not come from his side? His query begins "I have a 'Wells' hive;" but the details which follow deal with parts and arrangements in construction entirely absent from the Wells hive as it is generally known. We have read Mr. Wells' pamphlet describing his system, have seen and personally handled the hives in his own apiary, and heard the gentleman describe his methods of bee-management many times and often, and in view of all this it is "news" to us when we read in the above communication that the hive dealt with therein is made "precisely as recommended by Mr. Wells." Anyway, we are reluctantly compelled to confess our inability to give advice as to how the proposed alteration in construction and management are likely to effect the object aimed at, or to say whether the "attempt is likely to be a success." If the hive is one Mr. Wells recommends, that gentleman, or, may be, the manufacturer, can afford information, which we will be very pleased to print if forwarded.

[1588.] *Length of the Bee's Tongue.*—Is it the fact, as attested by some writers, that the length of the tongue, or proboscis, differs in the varieties of domesticated bees, and that it is longer in the Italian than in the black bee, enabling the former to exploit flowers which are useless to the latter?—SCEPTIC, *Oxford, November* 2.

REPLY.—The idea referred to is now generally, and rightly, regarded as a fable. No doubt it originated from the fact of the Ligurian bee seeming at times to work on red clover when the ordinary brown bee neglects that flower. In the same way the Italian bee was said—by those interested in its sale—to begin its labours earlier, continue working longer, and possess numerous other advantages over the common sort. On all these points opinions vary, but so far as length of tongue, careful measurements have failed to discover any difference in the two varieties.

[1589.] *Spring Cleansing Flights.*—Would you kindly inform me of what does the yellow coloured substance consist that is so freely scattered about by bees in taking their first cleansing flights in spring? I have heard it is digested pollen, but am anxious to have your definite opinion on the matter.—ARTHUR H. PEACH, *Oadby, near Leicester, November* 4.

REPLY.—The "substance" referred to is simply the ordinary fœcal matter voided by bees after long confinement. Beyond being less watery and more copious than at other times, there is no difference in spring "cleansing flights" to those of any other season, but the effects are, of course, much more plainly seen for the reasons given above.

[1590.] *Examinations for Second-class Certificates.*—In view of the fact of second-class experts examinations being fixed for November 20 and 21, might I ask on behalf of myself and other third-class experts if a syllabus has been decided upon for the guidance of the candidates? I was told that this was so, and would like to see it.—THIRD-CLASS EXPERT, *Yorks.*

REPLY.—If by "syllabus" our correspondent means questions, we may say the several questions placed before candidates for second-class experts certificates are sent to the gentleman who acts as superintendent of the exam. in a sealed envelope. This is opened when the candidate is prepared to begin; prior to which time the nature of the questions are unknown to both candidate and superintendent.

REMOVING POLLEN FROM COMBS.

As a rule, nearly all apiarists sooner or later find themselves supplied with a super-abundance of brood-combs containing more or less pollen, the quality or quantity being such that it is not desirable to again return them to the bees. To those who may desire such combs relieved of their contents, I may here state that I have succeeded to my heart's content, and herewith give the method, so that others having the same facilities may follow that practised by myself.

The generally-adopted plan heretofore used was to first soak the combs in water for a few days, and then throw out the water-soaked pollen by means of the honey-extractor. In order to force the air out of the cells so that the water would find its way to the bottom, the combs were held over some large vessel (I used a large square tin uncapping-can), while

yet another vessel containing a quantity of water was close at hand. A small corn-broom or whisk was dipped into the water and swished or thrown over the surface of the combs, they being held at an angle of about 45 deg. during the operation. As soon as thoroughly filled they were set side by side in the uncapping-can, when it was filled with water so as to completely cover the combs, the same being held in position by having a board and large stone placed thereon, and allowed to remain thus for thirty-six or forty-eight hours, or more if desired.

The above method has been practised by myself in the past, but a more expeditious and much more satisfactory plan has been used of late, and any one having the advantage of a town or city water-works system I would certainly recommend its utilisation for such a purpose. The mode of procedure in this case is the same as just outlined up to the time of the applying of the water to the surface of the combs, but instead of whisking it into them a nozzle is attached to the water-works hose, capable of throwing a fine stream or spray, that will cover the surface of the comb, five or six inches in diameter, every cell inside of that compass being thoroughly drenched to the septum with such force as in some instances to throw out the dried pellets of pollen, which are sometimes seen in such combs, almost instanter; the filling and washing out of a whole comb being accomplished in a very few seconds.

The same method in regard to the saturating of the solid pollen is carried out with all combs not thoroughly cleansed by the first spraying, and in forty-eight hours the stream or spray is again brought into requisition, this time, however, before the combs have been revolved in the extractor, as the stream, when directed on to the water-soaked combs, forces anything and everything contained in them to make a hasty retreat, leaving all as clean and sweet as if new.

Nothing now remains but to give the cleansed combs a few turns in the extractor to get rid of the remaining water they may contain. A wire-cloth screen, such as is used when shipping or removing bees to "fields anew," is now laid on two pieces of 2 in. by 4 in. scantling, and the hives, containing seven combs in each, and perfectly spaced, are tiered five or six stories high, with another screen on top, so that a current of air can pass through and thoroughly dry them.

The above plan was so satisfactory that I was almost sorry when it was finished, indeed, my son, who assisted me in the work (he being an awfully lazy fellow, like myself), remarked that he never saw me like to boss a job so well before. You know I could sit down to it while he had to stand up and run the extractor.

I will conclude by saying that the combs treated as stated were all wired brood-combs, four years old, or thereabout; but I see no reason why, with care, unwired combs could not be treated in like manner. For cleansing combs containing small quantities of sour honey, which sometimes accumulates if left too long unoccupied by the bees, as they were last season (I not having swarms to hive them on), the spray is a capital way of making them sweet and clean, and also for cleaning the basket of the extractor.—F. A. GEMMILL, *Canadian Bee Journal.*

Bee Shows to Come.

November 18 and 19, at Newcastle-on-Tyne. —Northumberland and Durham B.K.A., in connection with the Horticultural Society's Chrysanthemum Show at the Town Hall. Three open classes. Entry fee, 1s. each class. Schedules from J. N. Kidd, 29, Windermere-street, Gateshead. Entries close November 13.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

F. R. B. S. (Lincs.), *Experts' Certificates and the B.B.K.A.* — If our correspondent possesses any authentic warranty for the statement he makes as to the action of the Council of the B.B.K.A. in the matter referred to, and will furnish us with particulars therof, we may be disposed to publish his comments on the subject. Otherwise, we think the only proper and right course for our correspondent is to follow our example, and defer any observations he may feel disposed to make until the matter has been decided by the body who alone have the right or the power to deal with it, viz., the Council of the B.B.K.A.

JOHN NEWTON (Co. Wicklow). — Comb received is badly affected with foul brood. If, as stated, all the hives are affected in the same way, there is no other course that can be followed, we are sorry to say, but destroying the bees and combs of the whole lot, and disinfecting the hives before using again.

H. F. BEALE (Andover).—Honey sent is a very good sample; not specially characteristic of either sainfoin or lime except in colour. Its consistency is first rate.

J. MARTIN (Bristol).—*Lucerne as a Honey-Plant.*—This is a very good honey-plant. It blooms for several weeks, and in a favourable season yields well.

E. S. BLAKE (Leeds).—*Selling Honey.*—For reply to the question whether British honey is saleable or not, our issue of last week furnishes as good an answer as we can give.

Editorial, Notices, &c.

USEFUL HINTS.

It is eminently satisfactory to us, and we trust it will be no less so to our readers, that at a time when things in the world of bee-dom are supposed to have lost their interest even for members of the craft, that, as we say, at such a dead time, there is much in our pages not only of interest for readers of to-day, but which points to a continuance of the same for some time to come. No one can say that our correspondence "lacks fire," and although there may perhaps be a trace of friction here and there, it is only on the surface. The correspondence on the question of Bees and Cottagers has been productive of information such as we trust will settle the point as to whether or not substantial profit is or is not made from keeping bees, by cottagers and labouring men possessed of intelligence and the small business aptitude, without which no one can hope to get on in these days. Among many topics of interest now calling for attention, a prominent place may be claimed for the Schedule of the—

"ROYAL" SHOW OF 1897, which will be held at Manchester in June next. We may—without any lapse of proper official reticence—say that the Council of the B.B.K.A. has had still further powers given them so far as the allocation of the grant of £50 towards the prizes from the local fund. And that, in consequence, there will be five substantial money prizes to be competed for in the important County Trophy class; the first prize exhibit in which will receive, in addition, the silver medal, and the other four winning trophies the bronze medal of the B.B.K.A., with an engraved inscription commemorative of the "event."

It is also intended to include new classes for dark honey, heather honey, mead, honey vinegar, &c., besides somewhat increasing the value of the prizes in most of the honey classes. In view of the combined effort needed to make the County Trophies a big success it was not deemed advisable to retain the trophy class for individual exhibitors, and we think that the public spirit of these gentlemen—who could, of themselves, stage a good trophy if they wished—may be relied upon to sink personal preferences and lend a helping hand to make their county "win." After all, the good of the greatest number is what we should seek, and the doing of this in 1897 will be a source of satisfaction in the time to come.

The schedule, though well advanced, is not fully completed, and, subject to the approval of the Royal Agricultural Society—to which body it will, of course, be submitted—we hope to give full particulars very shortly.

"SPARE THE EDITORS."—Our esteemed contributor, "Lordswood," whose ire was supposed to have been aroused the other day out of pure sympathy for what he called the "Reply to Querists' Editor" of this journal (vide p. 424) can again help us *if he will*. First, however, we should explain to our friend that one reason why the particular editor to whom he refers was selected to fill his present "lofty" position (five flights upstairs) was the supposed possession of such gentle—almost lamb-like—qualities of mind and heart, that when dealing with, and penning replies to, bee-keepers, he would ensure their embracing one another (and himself) instead of springing at each other's throats—as the late Mr. Peel once said bee-keepers were at times prone to do.

But a communication has just reached us which rudely dispels even the confidence *we* had in our own *suaviter in modo* method. We print the letter *verb. et lit.* (to alter would spoil it) and here's what the writer says:—

SIRS,—Without saying you are "hard on me," as says Mr. A. J. Conder (1587, p. 458) I must say you are toplofty, a trifle arrogant, and scoffing, with your longer experience of bees and bee-keeping. Now, I wish particularly to know in what respect my frames are not of "Standard" size? They are 14 in. by 8½ in., ⅞ in. by ⅝ in. side and bottom bars and 1⅜ in. by ⅝ in. top bar reduced in middle to 1⅛ in. by ⅜ in. Top-bar is 15¾ in. long and as I said before self-spacing. As to the relative merits of these and metal ends, I challenge you to produce any with metal ends with less pollen than on mine. (Bear in mind I am a joiner of 40 years practice, and when it comes to that, I am prepared to give you—or any one else—lessons in practical hive making). I can quite understand A. J. Conder's difficulty in his "Wells" hives. Because that little detail occurred to me, and I solved it easily. The

plan can be applied to any hive with a movable floor, it is perfectly simple.

I cannot see how it is easier for a beginner to drive bees from skeps into empty skeps than to drive them into frame-hives direct, and with all due deference to your longer experience, I hold to my opinion until you give me a good reason to alter it. It is a lifelong habit of mine to want to know the why and wherefore of everything. My mother used to say: "Boy, you want to know more than everything."—A. H., *North Bucks.*

Full of anxiety as to what we had done to merit this "scorcher," we referred to back numbers and found our offence recorded on page 440 of B.J. for Oct. 29 last. But what are we to say in reply? We may assure "A. H." that we are *not* "toplofty" (whatever that may mean), at least we don't try to be; that we entirely agree with the opinion of his good mother regarding her "boy," and as for the ability to teach him "more than everything," which is, we suppose, the least that will satisfy his craving for knowledge, we give it up and wonder if "Lordswood" will help us?

By the way, though, that "Standard"-frame question put to us we cannot get away from, and therefore hasten to add:—The outside measurements are:—14 in. long by 8½ in. deep; top-bar 17 in. long, ⅜ in. thick, ⅞ in. wide; side-bars ¼ in., and bottom-bar ¼ in. thick, both being ⅞ in. wide, same as top-bar. Our correspondent will, no doubt, see wherein the difference lies.

PHOTOS OF APIARIES.—In response to the invitation on page 441, several photographs have been forwarded, for which senders will please accept our thanks. Further contributions of a similar kind will be esteemed.

PRICE OF SUGAR.—The further reduction in price of pure cane sugar, as per revised list, will no doubt be as welcome to readers as to ourselves.

BRITISH BEE-KEEPERS' ASSOCIATION.

The monthly meeting of the Council was held on Friday, November 13, in the board-room of the Society for the Prevention of Cruelty to Animals, 105, Jermyn-street, S.W. Letters of regret at inability to attend were read from the Baroness Burdett-Coutts (President), Mr. H. Jonas, and Mr. T. I. Weston. The chair was occupied by Mr. E. D. Till (Vice-Chairman), and there were also present the Hon. and Rev. Henry Bligh, Messrs. R. T. Andrews, H. W. Brice, W. Broughton Carr, W. O'B. Glennie, W. H. Harris, J. H. New, J. M. Hooker (ex-officio), and the Secretary, Edwin H. Young.

The minutes of the previous meeting were read and confirmed.

Three new members were elected as follows:—Mr. J. W. Avery, High-street, Ripley; Mr. F. Bertram White, 1, Blenheim Villas, Redhill; Mr. Chas. Carter, Gwynne Apiary, Newmarket.

The Education Committee reported that arrangements had been made for holding examinations for second-class expert certificates on November 20 and 21, in the following centres, viz., Bristol, Great Haywood, Marlow, Northenden, Southwell, Sutton-on-Trent, and Tamworth. The names of nine candidates had been received, and the superintendence of the examinations had been entrusted to the nominees of the local associations.

The Council then proceeded to the consideration of the improvements in the prize schedule for the bee-department of the Manchester meeting of the Royal Agricultural Society in 1897. A number of suggestions were made, which the Exhibitions Committee were requested to embody in the draft schedule to be submitted to the R.A.S.E. for approval. The Committee were also asked to hold a meeting at an early date and to formulate the rules and regulations governing the competitions. The schedule will be very comprehensive, the Council having decided to allocate nearly £80 in prize money in the various classes, this sum, of course, including the £50 kindly voted by the Manchester Local Committee.

The Chairman announced that Mr. Cowan (their chairman) would be leaving England on the day following the meeting, and that he had very generously contributed a donation of £10 to the funds of the association. This was another token of the great interest Mr. Cowan continued to manifest in the welfare of the society, and for the gift they were not lacking in gratitude.

CONVERSAZIONE.

(*Conclusion from page* 453.

The Chairman then referred to the question of sending queens by post, which had caused some trouble of late. He would like to know whether any gentleman present had ordered queens from abroad which he had not received. He had heard recently of several bee-keepers who were in that predicament, the bees having been stopped by the English Post Office authorities, but it was not quite known to what extent this had happened. The Council of the Association were consequently anxious for information, in order to take steps therein. Four years ago he wrote to the Secretary of the Post Office about this same matter, and was informed that since the Parcel Post had been established between foreign countries and

our own there was no restriction so far as sending queens by Parcel Post, but he was afraid there had lately been a departure from that rule detrimental to bee-keepers.

Mr. Ness said that last week he received eight queens instead of eighteen. The consignor said he would forward the second batch on the first or second day following. That was ten days ago. It was just possible they had not been dispatched.

Mr. Brice was informed that Mr. Webster had had five consignments of queens addressed to him from abroad during the last few weeks, none of which had reached their destination. He (Mr. Brice) had been awaiting several consignments himself since the first week in October, only one of which had arrived. He had communicated with two or three queen-rearers in Italy, who complained that the English Post Office stopped their packages containing bees.

The Chairman said his letter to the Post Office was to the effect that, as bees were sent by post from abroad, the postal restrictions should be removed so as to permit of the transmission of bees in England or anywhere by ordinary letter post. He received a reply, dated March 16, 1892, stating, as he had already said, that bees might be forwarded, but by *Parcel Post* only. As to the non-arrival of queens from Italy, some allowance must be made for the season, which had been wetter than any during the last thirty or forty years. While we were having beautiful weather here last summer it was wet there, to the detriment of the queen-breeders. The best course, perhaps, would be to countermand unexecuted orders and wait till the spring. He proposed to again inquire of the postal authorities about these delays, but did not know whether much good would be done.

Mr. Brice thought it might be interesting for the company to know that he had received a few consignments of bees from the Caucasus. Some had died on the long journey, while others came in perfectly good condition, and although he now had the queens safely domiciled in his apiary he could not say much about them at present, but would report later on. His plan, when sending away queens, was to forward with them only young nurse-bees, so far as he could choose such from the hive, and he believed it was due to that plan that he had been fortunate in avoiding mishaps. He sent a queen in July to Scotland, but having omitted an essential part of the address, the queen was returned through the post office, after eleven days absence, in as perfect condition as when she left. In another case he sent a queen to a gentleman, who put the package on top of the hive intending to open it later, he was, however, obliged to leave home, and detained away a fortnight; meantime he forgot all about the queen. On returning, he found the queen and accompanying bees in splendid condition. In another case, a gentleman wanted a queen to take to South Africa. This being a very trying journey, he devised and had a special cage made. In this he put about 150 bees and the queen with food for the journey. After a five weeks' voyage, and another week's journeying up to Johannesburg, he had been informed that this queen was now the mother of a flourishing colony there. With regard to the Caucasian bees which he had mentioned, in one case half of them were dead, although the queen was all right, while in another, all the accompanying bees and queen were dead. He informed the consignor of what had happened, and gave certain suggestions as to future packages.

The result was that on the 7th ult, after seven weeks' journey through St. Petersburg and Germany to England, a queen arrived with some nurse-bees, all in splendid condition. He thought it most important that nurse-bees should be sent with queens when a long journey was in prospect.

The Chairman hoped that Mr. Brice would be able to keep his Caucasian bees pure and distinct, so as to give them a fair trial in this country, and let the company at the Conversazione, in October, 1897, hear how he had succeeded with them. He (Mr. Cowan) had seen a colony of these bees at work. They were nice looking bees, and perfectly quiet to handle. On the first occasion when he manipulated a Caucasian stock he prepared himself with veil and smoker, both of which, however, were found to be quite unnecessary. On opening the hive the bees shook themselves a little, but never attempted to sting, and he made an artificial swarm from the colony without difficulty, and without the need for either smoker or veil. In fact, the Caucasian bees were less irritable than English ones.

Mr. Brice said he would do his best to keep the foreign bees quite separate, and report on them next autumn.

The Chairman said they would be very glad to hear that the county honey-trophy class at the Manchester Exhibition had been settled, in so far that the local committee had made a grant of £50 towards the prizes at the Royal Agricultural Show next year. He was also very pleased to tell them that the local committee had left the arranging of the extra prizes entirely in their hands, subject to the approval of the Royal Agricultural Society, which meant there would be no difficulty, because the B.B.K.A. worked in thorough harmony with the R.A.S. Now that the disposal of the money was settled, a schedule would have to be drawn up during the month of November. The B.B.K.A. Committee would meet prior to then, in order to make the arrangements. It had been proposed that the weight of honey on each trophy should be limited to 300 lbs. They would be glad to make the prizes as large as possible, so as to induce the counties to show. Mr. Seymour and Mr. A. Sharp both advocated a class for mead, the former observing that he knew several who would exhibit in the class, while

Mr. Sharp was sure that mead would become popular if better known. Dark honey made better mead than light honey, and thus a market could be found for the darker sort, which at present could not be satisfactorily disposed of. A good profit could be made on mead, and he thought that he and Mr. Seymour could guarantee a good number of entries for such a class.

Mr. Till suggested a class for 2-lb. sections, and thought a ready sale for these might be obtained among wealthy people.

Mr. Scattergood considered that 2 lb. sections were unsaleable at a profit.

An animated discussion here ensued between several gentlemen, who spoke for and against Mr. Till's proposal. A large majority, however, advocated retaining the 1-lb. section in deference to the popular preference for the smaller size. The Chairman, referring to the class for 2-lb. sections at the "Royal" show, said the sale of 2-lb. sections was very limited, and the class was abandoned because, for several years in succession, very few entries of 2-lb. sections could be obtained at the Royal show, which proved that the tendency of the market was in favour of 1-lb. sections. The B.B.K.A. did all it could to encourage the larger size, but without success.

A conversational discussion followed, in which Messrs. Till and Hooker still supported the production of 2-lb. sections, while Messrs. Sharp and Truss declared that, up to this time, they had been unable to dispose of 2-lb. sections, except at a price very little above that of 1-lb. sections. Messrs. Carr, Seymour, and other speakers, as well as the Chairman, were agreed that it would not pay to produce 2-lb. sections, all declaring that they were never able to dispose profitably of them.

The proceedings, which had throughout been full of interest, were brought to a close by a vote of thanks to the chairman, proposed by Mr. Pugh and seconded by Mr. Brice, followed by a similar motion in favour of the judges at the Dairy Show, proposed by Mr. Seymour and seconded by Mr. Woods, both votes being carried, and the meeting then closed.

LUDLOW CHRYSANTHEMUM AND FRUIT SOCIETY.

The second annual exhibition of this society was held at Ludlow, Salop, on Thursday, the 12th inst. The Town Hall presented a beautiful and brilliant spectacle, but, owing to the large number of entries, the Secretaries were much cramped for room. The honey classes did not, therefore, occupy so prominent a position as they might have done. Still, the stand at the entrance to the tea-room was appropriate, and did not fail to attract attention. The exhibits were very good, and the prize lots in each class excellent. The Committee another year intend their classes for dozens to be reduced to sixes, thus lessening the expenses of exhibitors from a distance. Mr. John Palmer acted as judge, and made the following awards :—

Twelve 1-lb. Jars Extracted Honey.—1st, P. Scott, Broseley ; 2nd, J. H. Wootton, Byford ; 3rd, J. Lewis, Cold Weston.

Twelve 1-lb. Sections.—1st, J. H. Wootton ; 2nd, J. Sopp, Wallingford, Berks ; 3rd, J. Lewis.—(*Communicated.*)

IRISH BEE-KEEPERS' ASSOCIATION.

The Committee met on 5th inst. Present : Dr. Traill (in the chair), Mr. Read, Mr. O'Bryen, and Mr. Chenevix (hon. sec., 15, Morehampton-road, Dublin). Experts' certificates were granted to Mr. Jeremiah Deane and Mr. David MacLurg.

Mr. O'Bryen reported that he had been instructed by the Congested Districts Board to judge the honey exhibits at the County Kerry Show last month, and had awarded the two prizes offered by the association in a class open to members only.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand. London. W.C.*"

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

RUSSIAN APICULTURE.

[2699.] The *Times* of 16th inst. contains a report of an address by Mons. Alexis Yermoloff, on Russian Apiculture. He has been Minister of Agriculture and State Domain in Russia since 1893. In this report our queen-rearers will be particularly interested, as some Caucasian queens have recently been imported by Mr. Brice, and probably of the same variety as those bees which Monsieur Yermoloff refers to in the following paragraph. He says :—"Apiculture has made substantial progress since effective measures were taken to prevent the adulteration of beeswax ; Russia possesses a fine race of bees—very productive and quite harmless—that originated in the Caucasus."

I would remark that Russia seems before England in protecting the purity of her beeswax. The recent decision on appeal in an

English court of law that beeswax is *not* a *drug*, and therefore *not* under the Food and Drugs Act, will be harmful. Bee-keepers ought to stir themselves on the question.—E. D. T., *November* 16.

BEES IN DURHAM.

"CAMPING-OUT" AT THE MOORS.

[2700.] I was glad to see a report from Durham in the BEE JOURNAL from Mr. Rochester (2683, p. 446). Speaking for myself, I have just had such a season at the heather as your correspondent. I extracted most of my clover-honey before removing the bees to the heather, taking from one stock ten shallow frames and forty-one good sections. I extracted the lot, and put the frames and sections back for the bees to travel to the heather with and refill there. I also removed the queen (an old one) at the same time, thinking it best to re-queen at the heather. Well, being busy extracting, packing for moors, with bees "boiling over" and in quite an uproar, I put on queen-excluder and replaced the ten shallow frames and sections to give more room for travelling to the heather. I got all fairly well to the journey's end (Danby, Yorkshire), opened entrance, and let the bees get calmed down and well to work. I then took the new queen and run her in at the entrance, allowing her to take pot luck! I went over about three weeks later to the moors to see how the bees were getting on, and, to my amazement, found the ten shallow frames and sections packed with sealed brood! I could have kicked the whole lot down the hillside, so annoyed did I feel. To me this proved that *bees do carry eggs* when in an excited state, like ants do when their nest is turned out. I hope bee-keepers will take the hint not to let bees have access to surplus chambers till settled down at the heather. The other stocks that had the supers put on at the heather had not a trace of brood.

I am thinking of "camping-out" with my bees on the moors during my holidays next year during the heather harvest, and hope to have an enjoyable time, and also avoid risk of loosing good queens, and not being there when wanted or at the right time. I am convinced it will pay. Where a large number of hives are put down, a good "camp" could be formed, and, with jolly bee-men, plenty of enjoyment found. It is all moonshine to think of just taking bees to the heather and expecting they will come back with surplus chambers full of sovereigns. We have got to work as well as the bees, and to an old camper it will come in fine, not to forget the commissariat department or the extractor. A sharp, handy man could arrange for all sorts of pleasant excursions and picnics amongst bee-men, besides holding a meeting to compare notes. Above all, for those half worked to death in an office, if a few could afford to rent a moor and gun, &c., think what a lung-opener to take one's gun on the pure heather, far from the busy town, and do what you like!

I was pleased to see in "Editorial Notes" that you are commencing a series of photographs. I shall be pleased to send you some if you will accept them.—GEO. ROBINSON, *Stockton on-Tees.*

BEE NOTES FROM CUMBERLAND.

[2701.] The season in this district opened splendidly, May blossoms being very abundant, and these bee-keepers living farther inland took a nice lot of early honey. There were also a good few May swarms, and altogether things promised well for a record year.

My own hives being kept near the sea, the bees store little or no surplus from the early blossoms; the slight income just keeping the queen going so as to have a fairly populous hive for clover yield, which commences about second week in June, and it yielded fairly for just five days, when the weather changed for the worse—rain and cold winds—and the bees began to draw on their stores before the month was out, and, of course, all sections were promptly removed, the result being eighty completed sections and about 40 lb. extracted, the surplus of eleven colonies carried from clover a full mile away. July and August being very cold and windy the bees scarcely kept themselves, and those taken to the heather did little more than fill the brood-chamber, which came in handy for eking out the stores of the other hives without any feeding.

I managed to rear six young queens and safely re-queen the same number of hives, and I had things fairly snug for the winter, when lo! the great wind and record tide came and my poor bees got a sad "dip," eleven out of fourteen were floating about in the water like so many corks, two of them turning completely over; another was bobbing about without the bottom, but sailing right way up. After fishing them out and carrying them to a place of safety, we put dry covers on the top of wet ones, opened entrances full, raised back dummies, and left them to drain and dry. Fortunately, three dry, warm days followed the storm, and the bees began in earnest to clean up their disordered homesteads. All day long they were flying and I suppose drying themselves thoroughly in the air, and on examining the combs after the bees had had a week's drying and cleaning all to themselves, I was very glad to find them in the condition they are, so that, apart from reducing the fourteen to twelve, I am not so badly hit as I expected.

How will they winter after having their combs and honey damped? That's the question, and perhaps it is rather too early to crow yet.

I am sorry to say the County Association for Cumberland that was talked of is, I fear, going to miss fire. Cumberland bee-keepers don't appear to realise the need of

co-operation for mutual benefit, or else don't care to give financial help to support the scheme. I am very sure there are plenty of bee-keepers in Cumberland to keep an association going.

Referring to the Gosforth annual Agricultural Show, held on September 11, the committee made a new venture this year and offered £10 in prizes for honey, bees, hives, &c., and judging by the entries for the different classes and the number of people that visited the bee-tent, it seemed to take very well, and I hear that it is proposed to keep the venture up, and make an annual thing of it. I certainly hope they will.—W. BARROWS, *The Station, Eskmeals, November* 12.

[It is difficult to believe that—with so many of the elements at hand which go to command success—it should require more than two or three active and earnest individuals, possessing good organising powers, to establish a district bee-keepers' association in a place where such encouraging local support is offered and appreciated. And if a Gosforth district association became an established fact, one would think that others would surely follow.—EDS.]

AWARDS AT DAIRY SHOW.

[2702.] Allow me to apologise for inadvertently stating that Worcester was a *non*-winning county, and to express my regret that one who had taken so much pains to stage a really instructive exhibit should for a time, at least, have been deprived of his due; but "all things come in time to those who know how to wait." Mr. Percy Leigh will now see that the blame does not rest with the B.B.J. My analysis of the catalogue was made *before* the Class which contained this exhibit had been judged on the second day of the Show, and I unfortunately omitted to complete it properly. Next year we must take care that no such mistake is repeated, and we must also see that a Class containing such interesting exhibits is not staged in close proximity to trading stalls, but prominently apart. Mr. Leigh had not arrived at Jermyn-street when I made the statement, and therefore had no opportunity to correct me. A source of frequent error in apportioning exhibits to the proper county arises from the fact that the postal town in the catalogue address is often in a different county to that in which the exhibitor usually resides. —E. D. TILL, *Eynsford, November* 16.

EXHIBITS AT THE DAIRY SHOW.

LOSS OF HONEY.

[2703.] Since the Dairy Show I have watched the B.B.J. as it appeared each week to see if any other exhibitor had been as fortunate as myself, but until now I see no reference to a similar occurrence, so I suppose I must have been most favoured in that direction. One correspondent, commenting on the duties of the judges at the Dairy Show, remarked, "They must have eaten pounds of honey," in the manner of tasting. But I cannot think they showed an especial liking for mine and thus swallowed the whole of the contents of one of my twelve jars, insomuch as not even the metal cap or anything was left to show that the twelfth jar had ever been with them!

But such was the case; only eleven bottles came back, nor did I receive these until Tuesday of the following week, and I am only about 45 miles away on direct line. Another thing seems to put my "cap" on—respecting carriage to and from the show. *To* the show I paid 10d. for twelve jars, while for eleven jars back home *from* the show the charge was 1s. 9d.! I think some of our friends about 200 miles north had better leave theirs entirely at the show if they were charged at this rate. I don't know if this is the cheap rate, but this was the rate charged by the Great Western, and I claim the Englishman's right to grumble when compelled to pay.—W. H. DRINKWATER, *Chinnor, Oxon.*

BEES AND COTTAGERS.

[2704.] My communication *re* "Bees and Cottagers" (2670, p. 436) has called forth so many comments that I feel bound to give some further particulars to justify my assertions, and I feel sure you will allow me the use of your columns to do so. My contention is that there is very little profit to small producers of honey, and that they are driven from the markets by the large producer. Honey, to find a market, must be put up in the most modern form, whether comb or extracted, and I contend it does not pay the man who has only a small quantity to dispose of to go to the expense of bottles, labels, section-cases, &c., because he only wants a few of each, and consequently has to buy them the dearest way, for the cottager cannot afford to keep a stock. Of course, the man who buys honey jars, &c., by the gross can get great reductions in price, and, being able to keep a large stock of all goods, can lay himself out to meet every competition. Another thing those who laud bee-keeping so much seem to forget is the risk of disease. I had a stock given me with which I started, and I bought another last autumn, guaranteed healthy then; yet when examined this spring I found one lot rotten with foul brood and the other slightly affected, so I promptly made a bonfire of my whole stock. Not daunted, I bought two more stocks, hives and all, and have had a very fair yield; but, alas! I have still a large portion of it unsold. I am not too proud to solicit custom, as "Sainfoin" suggests, for I have had a large board up by my front door all the season, with "Pure Honey for Sale" painted on it. One bee-man here has sold his entire apiary because he could not get even

6d. per lb. for his honey, and this man has been a bee-keeper for over forty years, and had no difficulty until the last few years. Another man has his whole year's yield on hand, and no customers for it. Nevertheless, I am cheered by the fact that some of my fellow-cottager bee-men have had better times, and must hope for better times myself. I was rather surprised that friend Woodley disagreed with me, for he told us in his "Notes," a little while ago, that he thought apiculture was, like agriculture, getting "played out." I have had considerable experience of the ways of the world, and am rather afraid some of those who say so much about the profits of the craft are not wholly disinterested in the increase or decrease of the industry.—A DISAPPOINTED COTTAGER, *Stroud, Glos., November* 12.

NOT A "DISAPPOINTED COTTAGER."

[2705.] I do not often take up your valuable space, but should like to say a word on the above subject. We can sympathise with "A Disappointed Cottager" (2670, p. 436) as to price of honey, because I take it a good many have been, and are being, led into bee-keeping through being told that large profits are made by so doing. Maybe your correspondent is one of these, and when he has a few pounds of honey to dispose of he finds he can only sell at a very low price. Now I think that not less than 6d. per lb. nett should be got for our honey if bee-keeping is to pay for time and labour. All must admit that a few stocks do take up a lot of time from the beginning of the season to the finishing up of it, and if you have to find tins and pay carriage there is not too much profit in selling at 6d. It may be said that we are working in our leisure time. Quite so; but that fact should not make our labour of no value, and in selling at above price we shall be paid badly for it. Here let me say I am not "A Disappointed Cottager." I have produced about 3 cwt. of honey this year, and have retailed about 60 lb., and sold wholesale about 100 lb. I retail clover at 8d., and darker qualities at 6d. I have sold all the former except what I want for my regular customers, but I have about 1 cwt. of hawthorn honey left, which I may offer through the advertising columns of the B.J. later on. Here let me say, few living in the country can hope to sell as quickly and at so good a price as your correspondent "Sainfoin" (2681, p. 445). It is no use my trying to get 10d. per lb. for my best honey; I cannot get it. Let me, in conclusion, say a word as to agricultural labourers and bee-keeping. We often see labourers advised to take up bee-keeping; but my humble opinion is, labourers will never make a success of the pursuit for the following reasons:—(1) They have not the time to give to it at the proper season, because of hay time and harvest work; (2) they (the majority) have not cottage-room enough to store the necessary appliances; and (3) because they have no money to invest in the business to make it a success. That, sir, is my opinion after a careful survey of country life, in fact; I don't know of a really successful bee-keeper who is an agricultural labourer.—CHAS. WELLS, *Oxendon, Market Harboro', November* 9, 1896.

[Agricultural labourers, as a rule, are not fond of even trying to put their experiences on paper for print; but we are hoping that some who are readers will reveal their identity for the information of our correspondent. For ourselves, we have often been an eye-witness of the hours of toil gone through nightly by farm-labourers in their rood or two of "allotment," rented and worked as "overtime," for the purpose of adding a few shillings per year to the man's wages. And when we have seen the garden-stuff as grown, marketed to neighbours—by the labourer himself or by his children—for a few pence per basket, have often thought how, by the expenditure of one-third the labour on a few hives of bees, three or four times as much of profit could be realised—and with far less trouble, too—in selling the produce, by reason of the few competitors for custom, in the pound or half-pound of home-grown country honey.

The following letters, we hope, will fully answer the general question.—EDS.]

AN ESSEX LABOURER'S REPORT.

[2706.] I have been asked to send you a short account of my experience in bee-keeping this year, and gladly give it for what it is worth. I started the year with sixteen stocks of bees in twelve hives (four being double lots with "Wells" division-boards) of my own make. The bees seemed fairly strong in early spring, so I had supers on the strongest stocks by the middle of May. The bees worked well up to the beginning of June, then had a month's rest, so I had to close the entrances to about 1½ in. to prevent robbing. In the first week of July, however, the white clover came out—I forgot to say we had some heavy rain in the middle of June, after the hay was cut. All over the meadows and second crop of clover and rye-grass, I never saw bees work like they did for about three weeks, and only having two empty shallow frames left on hand, except those on the hives, there was some work for yours truly. Coming home one night I found the bees of five hives hanging out wanting room. Of these, two were double and three single ones. I removed two frames from each one and extracted them that night, and then work was kept on the whole time whilst the honey flow lasted. Well, for my results:—Counting sections as 1-lb., I have taken about 1,240 lb. of honey, and sold over 1,100 lb. at about 6d. per lb., leaving me not a great deal of 112 lb. This does not include what was used for home consumption, nor that I have given away to friends; and I have also left the bees with all their brood-frames untouched, and sold 16 lb. of wax from the "cappings;" had two

swarms (which were put back) and reared five young queens for the "Wells" hives. I am only a labourer, working from 6 a.m. to 5.30 p.m. This compels me to do all my work mornings and evenings, so I rise with the sun, or as soon as it is light, and go to bed thoroughly tired. I have to do all the bee-work, for my wife likes bees best dead; or at a distance. You must excuse mistakes and correct bad spelling, for I am more used to a crowbar than a pen. If this report has any interest for readers you are welcome to insert it in the B.J. — G. A., *North Weald, November* 14.

A CHESHIRE COTTAGER'S REPORT.

[2707.] I should like to add a word of encouragement to a "Disappointed Cottager" for another year's bee-keeping by giving my own experience for the past season. I am only a working man with not much spare time, and only keep three hives, and prevent increase to that number by persistently returning swarms or disposing of queens. On April 10 our "expert" visited me, and reported my hives as "Excellent: bees remarkably strong and forward," so I looked forward to having a grand season. Unfortunately, however, just at the height of the clover bloom—in mid-June—the weather became dull and cold, which was a great drawback; but I managed to secure an average of 49 lb. per hive. My receipts for the year are:—

Prize money at shows ...	£6	2	6
Three dozen jars at 10s. 6d. ...	1	11	6
Eight odd jars	0	6	3
Three dozen sections at 10s. ...	1	10	0
Six sections at 1s....	0	6	0
	£9	10	9
Expenses include—			
Extractor	£1	10	0
Drainer and ripener	0	12	6
Section racks	0	8	5
Foundation	0	4	7½
Total expenses at shows	1	13	2½
	£4	8	9
Balance (being profit) ...	5	2	0

I strongly advise a "Disappointed Cottager" to let only the best honey go to market, then he will get a good price with repeated orders; any inferior honey can be used in various ways. I am looking forward for a good season in 1897, as the clover is in grand form at present owing to the wet back-end. Hoping we may all come safely through the winter.—SMALL COTTAGER, *Tarporley, November* 16.

CARRIAGE FOR HONEY.

OWNER'S RISK RATE.

[2708.] In answer to the inquiry of Mr. R. Ness (2694, p. 457), I beg to say he can minimise the danger by writing on reverse side of his label, "To be Returned at Owner's Risk." This will not only relieve the secretary of the show in a measure, but answer the desired purpose. As a rule, the secretary is a hard-worked man, both before and after a large show. Our friend "Lordswood" says, "Spare the Editors." I say, "Spare the Secretaries." Make everything as clear as you possibly can and send your honey in the simplest of packages. See that it is properly sent off by rail, giving the stationmaster to understand that you appreciate the advantages of forwarding honey in packages at "Owner's risk" rate. This done all will end well. In conclusion, my two packages from Dairy Show weighed 84 lb., and cost me 1s. 8d.—R. BROWN, *Somersham, Hunts, November* 16.

"WAX" AT THE DAIRY SHOW.

[2709.]—In my recent visit to the Dairy Show I was struck by the poverty, both in quantity and quality, of wax shown. Surely a show of such magnitude might have at least one class for such an important product of the hive? What there was of it being relegated to a class in which mead, vinegar, frame-hives, sections, &c., were all trying to convince the judges that each was "the most interesting and instructive exhibit."—F.R. B. S., *Lincs., November* 3.

AMERICAN HONEY CONFECTIONERY.

[2710.] When at the G. B. Lewis Company's Factory, Watertown, Wis., a few days ago, I was introduced to Mr. Stone, of Woodward & Stone, owners of a biscuit and confectionery works there. This firm uses about ten tons of honey each year in their business. Mr. Stone was good enough to give me the recipes for two of their products, which may be of interest to readers of the BEE JOURNAL in the confectionery trade.

HONEY JUMBLES.

Flour, 1 barrel (196 lb.); lard, 10 lb.; honey, 12 gals.; molasses, 3 gals.; carbonate soda, 4 oz.; salt, 1 lb.; water, 3 gals.; vanilla extract, 1 pint.

HONEY GEMS.

Flour, 1 barrel (196 lb.); lard, 10 lb.; honey, 7 gals.; molasses, 7 gals.; brown sugar, 15 lb.; carbonate soda, 3½ lb.; salt, 1 lb; water, 4 gals.; vanilla extract, 1 pint.

I will show you the sample of honey cakes on my return home. Mr. Stone tells me that nearly all bakers and confectioners use honey in America, and that the United States could not produce enough honey, but had to import from Jamaica and Cuba. I was always under the impression that the United States exported a lot of honey.

I am sorry I could not get a collection of honey cakes over in time for the Dairy Show, which I hope has been a success.—EDW. H. TAYLOR, *of Welwyn, Herts.*

Queries and Replies.

[1591.] *Distance between Hives in Confined Spaces.*—The tables upon which I stand my hives are 12 ft. long, and if the hives are placed closely together, each table will accommodate six hives; in this case, the distance between the entrance of each hive is 2 ft. Will you kindly inform me whether hives thus arranged are packed too closely together? I may say that, in view of this possible contingency, my hives are painted red, white, and blue, alternately, and I believe that it is an acknowledged fact that few bees are colour-blind. At the same time, as I am only a novice, I should be glad to have your valuable opinion on the subject.—R. K., *Spalding, November* 11.

Reply.—We do not know that there are any reasons for the 6 ft. of space between hive entrances advocated as advantageous (wherever possible) by all experienced authorities, other than the mischief resulting from loss of queens at mating time. For the rest, all the space actually needed is just so much as affords convenience in working to the bee-keeper himself. Wherever space is limited and hives must be close together, it no doubt minimises the mischief referred to if entrances are made to look as different as possible both in form and colour.

[1592.] *Wintering Bees in Skep.*—1. Might I ask why the bees I forward have died? They are in a straw skep, and, as far as I can judge, a fair lot. I bought them as an "old stock" last August, and got a little honey from them, but did not touch the stores in body of the skep. They have not swarmed at all this year. I found a few dead outside the hive during some days of the last week. Do you think I should feed them? and if so, which receipt in Cowan's "Guide Book" should I follow. 2. Would it be well to winter the bees inside a small greenhouse, occasionally lighted by an oil-stove? I gave them a little candy, made according to receipt No. 4 (page 162) last September, and put a piece of camphor under the quilts this morning. 3. Is it too late for bees to turn young drones out? I thought I saw some turned out to-day. 4. A skep of bees is going to be sent here from Suffolk. Will they take any harm if put into a big box, skep and all, travelling by train? 5. Is there a Surrey Bee-keepers' Association, and what is the address of the secretary?—P. H. E. Wilder, *Sutton, Surrey, November* 12.

Reply.—1. It is quite common for a few dead bees to be found outside hives at this season, and need cause no alarm. The skep should, however, be lifted in order to get some approximate idea of its weight. Old skeps below 20 lb. to 25 lb. gross weight may need help to tide them safely over the winter and until next March. If food is required, soft candy (not flour candy) is the only suitable food at this season, and will need to be given at feed-hole in top, covering all carefully to prevent up-draught. 2. On no account move the bees inside greenhouse for winter. 3. You are probably mistaken in this, it being very unusual indeed to see drones cast out in November. 4. The skep should travel bottom upwards, and be covered with open cheese-cloth or scrim. 5. The secretary of the Surrey B.K.A. is E. H. Cuthell, Esq., Chapel Croft, Dorking.

[1593.] *Hay-chaff for Winter Packing.*—I have had bags of unbleached calico made and filled with hay-chaff fairly thick placed over double quilts on top of frames. Will it allow sufficient ventilation, as the bag fills up the space above frame?—Courtenay F. Wilson, *Tatchbury Manor House, Hants, November* 11.

Reply.—If the hay-chaff is thoroughly dried—so as to free it from possible mouldiness—bags so filled will make excellent coverings of even single quilts above frames in winter. Pack close down at sides, as the chaff will afford plenty of ventilation.

[1594.] *Glass Covers for Frames.*—"W. R. N.," Sussex, writes in B.J. of July 30 last (page 305), saying he finds his glass quilts answer perfectly. Now will you, for the benefit of a beginner, give in next issue the address of the writer if he is get-at-able by letter; or will you, better still, give particulars of the glass quilt in B.J.?—A Beginner, *Liphook, Hants, November* 11.

[We will be much obliged if our correspondent, "W. R. N.," will kindly answer the above query.—Eds.]

[1595] *Bees of Driven Stocks Dying.*—I commenced bee-keeping in the autumn of '94 with four stocks of driven bees. In the following April I discovered that two of the stocks were infested with small winged insects, and about ten days later the bees were all dead, though there was brood and eggs in the cells. A few days afterwards the young brood gave out a very offensive odour. However, in the following July I put a swarm into one of the hives on the old combs, and it has done well. 1. Can you say what was the disease, and suggest a remedy? 2. I enclose a few of my bees; can you say of what species they are? 3. Do Italian bees gather honey from red clover? 4. Which do you consider most profitable, sections of comb honey or frames for extracting? 5. What is the best early bee-pasturage for sowing in the garden? 6. Do you approve of allowing bees to enter supers through an opening above the excluder zinc?—C. K., *Kilkenny, Nov.* 13.

Reply.—1. Small "winged insects" in a hive can in no sense be called a "disease," and only inspection of the hive would enable us to suggest a cause for the death of bees. Dead and decaying brood, however, will, of course

give off an offensive odour; but we trust the cause of this was removed before hiving a swarm on the combs. 2. Bees were smashed out of recognition in post; as they always are when sent in letters unprotected. 3. At times they do, but ordinary brown bees do the same, though not so readily as Italians. 4. It depends on the demand for comb, or for extracted honey in your district. 5. Beyond a few crocus, wallflowers, white rock, and such early flowering plants yielding a little stimulative feeding in early spring, it is of little use sowing early garden flowers for bees so far as profit from them. 6. No. Let the bees enter by the ordinary doorway.

[1596.] *Lace Paper for Sections.*—Can you tell me where I can obtain paper edging for glazing sections with a wider plain part that goes on to the wood. I use four-way sections, and find that the usual sort is too narrow to wrap over and hold properly.—A. J. Roberts, *Harling, Petersfield.*

Reply.—Perhaps some reader who can furnish the information asked for will kindly send a line in answer to the above for publication.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

F. R. B. S. (Lincs.).—*Experts' Certificates and the B.B.K.A.* — The communication received in reply to our comment of last week in this column brings the matter no nearer than before, except so far as our correspondent admitting that he had made "a mistake," for which he is sorry. We can only say here that he—along with the friend whose views he apparently shares—makes another mistake in attributing to this journal powers, duties, and responsibilities connected with the B.B.K.A. which belong only to the Council of that body, and to which the Bee Journal makes no claim whatever. Beyond being recognised as the official organ of the B.B.K.A., this journal possesses no power over the Council exceeding that of any member of the Association, nor should it be needful to make this fact plain to any one of ordinary intelligence. In view of these facts, we must therefore ask our correspondent to address any communication dealing with the jurisdiction or the powers of the B.B.K.A. to the Secretary, Mr. E. H. Young, 12, Hanover-square, W., who alone, on behalf of the Council, is empowered to give official information as to the intentions of the Council of which he is Secretary.

Ernest E. Davis (Gt. Bookham).—*Foreign Queens by Post.*—Our correspondent will receive some explanation of the delay in delivery of queens from abroad by referring to the concluding portion of report of the B.B.K.A. Conversazione on another page. From what has come to light—and subsequent to the mention of postal difficulties—at the meeting, it would appear that the breeders of foreign queens referred to, viz., Messrs. Lucio Paglia and Silvio Galletti, are themselves entitled to some share of commiseration, in view of queens—sent away by them to purchasers in this country—being returned dead through refusal of our postal authorities to deliver them here. Any way, we can assure our correspondent of the perfect respectability and bona fides of both advertisers in question, and the delay in reply to remonstrances regarding non-delivery is, no doubt, in great measure due to linguistic difficulties, combined with scarcity of queens to replace returned dead ones, owing to the bad season in Italy and Switzerland.

Novice (South Wales).—1. Comb contains nothing worse than pollen, and has never been bred in at all. 2. If by "top of hives" the roof is meant, the wire-cloth will do very well; but so far as actual brood-chambers, properly constructed hives need no ventilating holes, either in winter or summer.

Jas. Cowie (Lesmahagow, N.B.).—*Clarifying Wax.*—It is not possible to get "bright yellow wax" from dark-coloured brood combs. The colour may be improved by repeated melting, and running the wax, while hot, into clean cold water. The dark-coloured débris on the under side of the cake should also be removed at each melting. Some add a few drops of oil of vitriol on removing the boiling wax from the fire, but we do not like adding chemicals in this way. It is best to clarify by boiling in clean water as often as needed. A long article on wax-extracting appears in our issue of October 22 last, page 428.

M. L. (Lockerbie).—*Soft Candy.*—Though scarcely so "buttery" or smooth in grain as we like, the sample sent is a fairly good candy for winter.

D. J. B. (Swansea). — *Foul Brood.*—The disease is certainly present in comb sent, but in view of there being so very few cells in which the brood has failed to hatch out right, we should not advise destruction in view of the bees being "very strong now and thickly covering five frames on both sides." Let them remain on as few frames as you can crowd them on to, leaving only combs as nearly free from sealed cells as can be found. Use naphthaline on floor-board and feed in spring with medicated food. Carefully watch the hatching brood in April next, and be guided by results as to the future of the colony.

W. W. Law (Bermondsey).—*Making Dark Honey Light.*—We have personally demonstrated that this can be done, but the process is so troublesome as to render its practical value nil.

Editorial, Notices, &c.

SPARING THE EDITORS.

Without intending to be taken too seriously when writing last week in the person of the individual sometimes designated as "Mr. Useful Hints," there is a real and not unsubstantial grievance on our side which we, in all seriousness, ask correspondents to bear in mind. Whether or not our friend "A. H."—whose letter appeared on page 461—takes offence at the manner in which his communication was dealt with, we need not stop to inquire, because most persons will agree that such offensiveness, of a sort as there is, appears in his own letter. But we *do* think that some, at least, of our correspondents are insufficiently alive to the responsibility attaching to the management of a public journal, or the obvious need for much caution regarding what appears in print. We are sometimes — innocently enough — asked to publish matter which would promptly land us in an action for libel. At others we get severely "handled" because of declining to give publicity to communications withheld for reasons which the no-doubt well-meaning writers either fail entirely to grasp, or cannot understand because of not knowing quite so much of the subject *from all sides* as ourselves.

Another part of our grievance arises in consequence of a lack of the amount of consideration to which we are fairly entitled. Some (happily, not many) correspondents not only don't "spare the Editors," but are equally oblivious to the feelings of the great majority of their fellow readers. In saying this we wish it to be clearly understood that in no way do we depart from our idea of what we conceive to be the duty of an Editor of a technical paper like the BEE JOURNAL. We assume that his best services are at the command of readers, so far as imparting to them whatever knowledge he may have acquired in the subjects dealt with; and according to the wisdom or otherwise of the teaching, so will his advice be valued and his paper esteemed, or both advice and paper be regarded as worthless. Moreover, he must bear with —and endeavour to do justice to—the oft-repeated and purely elementary questions put by beginners, while not failing to take into account the natural "touchiness" of the old hand at the craft, who resents the idea of space being occupied with what *he* deems childish questions.

Bearing all this in mind, then, we return to the particular class of correspondent referred to above, whose want of consideration has mainly led to the writing of this article. A letter reached us a few days ago which is so directly opportune as furnishing a case in point where a line may be drawn, that we may deal freely with it, without a suspicion of intending the slightest offence to anyone. Our correspondent, without going so far as "A. H." did last week, has a rather persistent habit—unconsciously so, maybe—of wanting to know "why the 'Guide Book'" (or the B.J., as the case may be) says so and so? Or why methods advocated are considered superior to others not mentioned? Now it should "go without saying" that text-books of limited size on any subject are supposed to be read in the light of ordinary intelligence, and of common-sense. They must also, perforce, have their meaning expressed as concisely and tersely as possible. Any attempt to explain paragraphs dealing with special operations, or special methods of performing such operations, from the different points of view from which a dozen or so individuals might regard them, would be simply absurd. It is therefore assumed that readers will accept the assurance of the author that such methods as are recommended and advocated are the outcome of his personal experiment and experience; that they will test them in practice without having it so fully explained why they should do so. If—after carefully adhering to the instructions laid down in the text—failure results, then, and then only, should complaint be made of want of clearness in detail or lack of thoroughness, as the case may be.

The "large order" in queries which, as already said, is a main object of these remarks was being replied to in the usual way when, on reaching question No. 5, we began to contemplate the probable length of the whole, which extended to no less than fifteen queries. The result was our resolve to point a moral; and hence this article. We can-

not afford space for the queries in full, and therefore indicate their tenour by a sub-head to each. These, together with replies, read as follows :—

Measuring Vinegar for Bee Syrup—1. There is no reason for alteration in wording of recipe in "Guide Book" as suggested, and no alarm need be felt at having used a tablespoon holding seven drachms instead of six, the precise size of the particular tablespoon used being of no consequence at all. The dislike of the bees to the food must therefore arise from some other cause than too much vinegar. 2. *Returning Combs to Hives.*—The suggestion that combs be returned to same hives and to same position in hives is made for two reasons :—first, in case of disease lurking unseen, and second, because of it so often happening with ordinary bee-keepers that combs are not built perfectly flat and level on the face ; consequently if any portion of one side of a comb projects too far towards its opposite comb, the bees join the two. 3. *Direct Introduction of Queens.*—The several methods of queen introduction given in "Guide Book" serve to show that the author is not wedded to one particular plan ; but to give the "reasons why a queen must be kept alone for thirty minutes," as advised by Mr. Simmins, would only serve to lengthen the book for no obvious purpose. 4. *Will cutting out queen-cells prevent First Swarms?*—Our correspondent may be quite sure there are good reasons why the "Guide Book" limits effectual prevention to "swarms beyond the first." 5. *Doubling and Storifying.*—This method is obviously suitable only for working for extracted honey. We cannot, therefore, say "why it should not be applied to Section honey" except that it isn't suitable.

Having said this much, and without in the slightest degree wishing to discourage beginners from putting their queries as usual, we leave to correspondents themselves the question whether or not we are justified in asking for some consideration at their hands, so far as the "Guide Book."

It is claimed as one of the chief merits of that book that every item of bee-work detailed therein has been tried practically by the author himself, and it is only asked that his instructions be closely adhered to and carefully carried out in order to ensure success.

HONEY IMPORTS.

The total value of honey imported into the United Kingdom during the month of October, 1896, was £1,747.—*From a return furnished to the* BRITISH BEE JOURNAL *by the Statistical Office, H.M. Customs.*

SHOW AT WELLINGBOROUGH.

The twelfth annual show of the Wellingborough Chrysanthemum Society was held at the Corn Exchange on November 13 and 14, and in point of quality the exhibition was regarded as the best on record. Chrysanthemums and fruit, of course, formed the greater part of the show, but a section was devoted to honey, of which a very creditable display was made.

Dr. Bellow, of Wollaston, judged this department, and made the following awards :—

Six 1-*lb. Sections.*—1st, G. Siddons, Park Farm ; 2nd, J. Adams, West Haddon ; 3rd, W. Winterton.

Six 1-*lb. Jars Extracted Honey.*—1st, G. Brealey, Grendon ; 2nd, J. S. Partridge, Wollaston ; 3rd, W. Winterton.

(Special prizes by the Northants B.K.A.) :—*Single* 1-*lb. Section.*—1st, J. Adams ; 2nd, W. Winterton.

Single 1-*lb. Jar Extracted Honey.*—1st, G. Brealey ; 2nd, W. Winterton. Mr. Winterton had also kindly sent (not for competition) a dozen cylinders of extracted honey, and a show-case containing a dozen sections.—(*Communicated*).

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "THE EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*"

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

GLASS COVERS FOR FRAMES.

[2711.] I have much pleasure in complying with the request of the Editors of the B.B.J., and, in reply to the inquiry of "A Beginner" (No. 1594, p. 469, Nov. 19th), describing my experience of the glass covers I use in my hives.

Well, personally, I am as contented with them as ever. They are so delightfully clean ! The four-year-old quilts and wraps, which, of course, I heap up several thicknesses deep above them, are so free from stickiness, propolis, mess, mildew, or damp.

Then I find it *such* a convenience to be enabled to take a peep at my bees whenever I like, and, in suitable weather, to study their interesting proceedings myself, and show them

to friends. It is quite amusing to note the alarm of a freshly-hived colony from a skep when I first raise the wraps and look down upon them through the glass. In about three weeks' time, however, they become quite used to the inspection, and have learned to take it calmly, wondering, no doubt, much at the unaccountable ways of mortals (I dare say we should feel much the same if a superior power took off our roofs and lifted our ceilings), but resigning themselves to what they cannot prevent on finding no harm is done them. The advantage is, of course, that, at any time, summer or winter, an inspection of the state of the stock can be made almost instantaneously, and not only without disturbing the bees, but also without letting in cold air and lowering their temperature.

As to wintering, I have in four years lost none but a couple of queenless stocks. If the colony is large, covering, say, not less than six frames pretty fairly, the heat generated is sufficient to keep the glass warm enough to allow the bees to cluster freely up against it. The smaller the stock, the colder the glass becomes, and the bees then retire from it down between the frames. Hence I think glass, being a chilly substance, might be dangerous to the bees in a long spell of very cold weather, although I did not practically find it to be so during the very severe winter before last; and possibly the usual carpet or felt quilt is safer for the comfortable wintering of small stocks.

As far as I can ascertain from an almost daily inspection, strong stocks rarely ever cluster, except in the severest weather, if then. Weak stocks will be clustering, or even fanning, when strong stocks are running freely about the hive. Hence is shown the wisdom of the pithy saying, "the best covering for bees is *bees*."

But as to the difficulty of keeping hives strong and full of bees, and the extraordinarily rapid vicissitudes in the strength of stocks experienced (at any rate, by myself) this year, I should like to say something on another occasion.

The disadvantages of glass covers are due mainly to the persistent, complete, and baffling way in which the bees propolise them firmly down. They would certainly not suit those who are constantly overhauling their stocks, changing frames, hunting up queens, &c., unless, perhaps, instead of being in one piece, each cover consisted of several slips placed side by side. This has been suggested to me by the handiness of glass covers which I have happened to crack. So long as the pieces fit close they are rather more convenient than the whole sheets. After many experiments I now detach them easily from the tops of the frames, burr combs, &c., by using a very thin, even-bladed, long-spring capping knife, running it first all round beneath the glass, and then from either end underneath down the top of each frame, where necessary, but working with the greatest care and patience whenever the hive is full of bees. By taking time it is easy to take off the sheets quietly, with surprisingly little disturbance of the bees, and without maiming any. Replacing the carpet quilts and waiting a little will do wonders.

In my own case, if I laid the sheet of glass flat on the top of the frames, it would sink below the level of the outer edge of brood-boxes, and I could not insert a knife as above described to remove it. I therefore first lay on top of frames a square, or, rather, oblong, rim of wood, as thin as possible, and about $1\frac{1}{2}$ in. wide, like an empty picture-frame. This I always leave on frame-tops, laying on it the excluder zinc whenever I make the change from winter to spring arrangements. By adroitly using a carbolised cloth, I never find it very difficult to prize this up, whenever necessary, in order to overhaul the brood-chamber. This plan also allows the bees free access over tops of frames (winter passages) at all times, and it certainly seems comfortable to them. In the middle line of each sheet of glass, at two-thirds of its length (not the centre, as the bees nearly always cluster at the front of the hive, over the entrance), I have a hole cut of about 2 in. diameter. This is expensive, and brings the cost of each sheet to about 1s. 6d., in the best glass. Thin glass breaks to pieces in taking off. One sheet broke in my hand from its own weight. When feeders are not on, I stop up this hole with a bung cork; and at all times I pile up carpet and felt thickly over the glass; the success of wintering, as of comb building and storing, depending upon keeping as much warmth as possible in the hives.

I have thus once more described my own procedure. During the honey season, I similarly cover both shallow extracting lifts and section crates with glass sheets. Here, again, this enables me to judge at a glance of the state of the harvest and the treatment needed.

In conclusion, although the system suits me admirably, I should not recommend it to everybody, and perhaps, above all, not to "A Beginner." I have applied it to all my own fourteen hives, but it needs some experience and a good deal of patience in the actual working, and is a trifle expensive. I have learned that if I want honey I must pull my hives about as little as possible; but this is not the view of all. My bees have a tiresome knack of balling their queens on the slightest provocation, and I dare not interfere much with the interiors of their homes. I have sometimes wondered whether sheets of mica would answer better than glass, but have never tried the experiment. I have no trouble from condensation or mildew whatever.

I hope I have now given "A Beginner" the information he desired; but, if not, as I think this communication has run to quite a sufficient length, I hope he will address a letter to me under cover to the Editors of the B.B.J., and I will endeavour to satisfy any further inquiries

on his part. He will find other letters of mine on this subject in the B B.J. for October 4, 1894, p. 396 (2081), and for September 26, 1895, p. 385 (2201), and these may possibly also help him.—W. R. N., *Sussex, Nov.* 20.

[2712.] Possibly my experience may help "A Beginner" (1594, p. 469), so I send it in case the Editors' footnote may not be noticed by "W. R. N."

Seeing "W. R. N.'s" first communication on the subject, I set to work to fit my hives with these covers. First procuring sheets of 21 oz. glass (size 16¾ in. by 15 in.). I proceeded to cut feed holes near the centre. This I found a difficult job, but got over it as follows:—Resting the piece of glass on the end of an iron rod (a poker) I gave a slight blow with a hammer. This made a small hole for a start, which was enlarged bit by bit by pinching around with a pair of plyers. Some of these pieces of glass were fixed permanently in frames of wood ⅝ in. thick, the glass resting in a groove in the centre. (These I found difficult to remove when propolised to the frames.) Others were laid loosely on slabs of wood, and these answered splendidly, except that, from pressure on the feeder and other manipulation, it caused cracking to start at the feed hole, which spread until the glass was ruined. Since then I have fitted some hives with sliding tin-feeders at bottom (which, by the way, I consider superior to all other arrangements), thus doing away with the necessity for a hole in the glass.

Now for details:—First and foremost a sliding feeder in the bottom. Then four strips of wood, 1 in. wide and ¼ to ⅜ in. thick. One of these pieces, 14½ in. long, to be laid on the front frame and pushed tightly against the hive front. A piece of the same size is tacked to the top of the dummy board; the remaining pieces, of whatever length the particular hive may require are then laid one on each side, forming a frame on which the plain sheet of glass is placed. Before putting the strips in position, rub both sides with vaseline, and no amount of propolising will fix them. The glass can be readily removed by running a knife along between the strip and the glass, when, the two side strips being taken away, the frames can be examined. In this way a hive can be opened quite as quickly, and with less disturbance of the bees, than when the quilt is used, and there is no risk whatever of crushing or imprisoning bees. After overhauling a hive, I place the wood strips in position, then lay the carbolic cloth over all, *except the front strip*; now, resting the glass on this strip, I pull away the carbolic cloth, at the same time lowering the glass to its resting place.

On the glass I lay quilts ¾ in. to 1 in. thick, made from old garments sewn together roughly, and cut to fit the inside of hives, naphthaline being crushed to powder and put among the folds. I find these "pads" better in every way than loose pieces, but if used with the quilt proper, all bees must be allowed to get from under the lighter covering before putting them on.—J. G. G., *Hereford, November* 21.

THE DAIRY SHOW.

RE DARK HONEY CLASSES.

[2713.] The experiment of offering prizes for dark-coloured honey at the late Dairy Show resulted in bringing a large quantity of exhibits together. But, looking back on the whole display in the light of experience gained by the grouping together of good and bad samples, I fear the verdict of many will be that the character of English honey has been lowered by it. I mean, chiefly, lowered in the estimation of some at least of the British public who visited that corner of the Dairy Show in which the honey section was located. Pressure of business prevented me from spending more than a few hours in the Show this year, consequently I was not able to exhaustively scrutinise the whole of the exhibits; but as I had a word to say in my erstwhile "Notes by the Way" on establishing a class for dark-coloured honey, I shall not overstep the mark by giving *my* opinion on the probable result of that exhibition on the future of honey sales. In the first place, I feel that the awards gave satisfaction to the exhibitors in that particular class—or at least to those who troubled to sample the winning exhibits—but I must say that some of the exhibits ought never to have been staged as samples of pure British honey. I do not infer that the honey staged was—every ounce of it—not gathered by bees and from natural sources, but it was not the nectar of flowers resolved by bees into honey. I should rather consider it the exudations of insects and of such plants as yield what was yclept by our forefathers, "honeydew." The choice of the judges for the lighter grades of the dark honey will, I trust, show future exhibitors the futility of staging such inferior samples another year. Unfortunately for the craft honey has not yet become a staple article of diet, and if some of the exhibits at the Dairy Show found their way to the breakfast-table of the "Britisher," I fear the flavour would not increase his taste for the home product.

In the second place, I would suggest that honey of such quality be used for manufacturing purposes only. Possibly such firms as Day & Martin would buy such for putting a polish to their blacking. Or others in the wholesale tobacco trade—who, I understand, consume a quantity of honey in their manufacturing processes—might use it in producing the "fragrant weed." There are also other outlets such as manufacturing chemists, distillers, and wholesale spirit dealers, who also use honey for sweetening and "improving" their wares. To some such uses should such dark rank stuff as I refer to be consigned, instead of being offered in 1-lb. jars as pure English honey.

Finally, I would again impress on bee-keepers the duty they owe to the craft, to themselves, and to their neighbours, viz., to grade their honey fairly and to do unto others as they would be done by—*i.e.*, send out their produce equal to sample. Especially in the case of comb-honey the "grading" should make the individual section of each dozen or parcel equal in value throughout. Your customer will then know what to expect, and repeat orders will come another season. To the bee-keeper with only a small quantity I say, create a "home market," and so do yourself a service, and add a little "pelf" to the pocket. But don't undersell your neighbour; charge retail market value for your product, and don't let one fellow have half a dozen pounds of your honey at 6d., and then charge another 8d. or 9d. for the same quality. We have not only to compete with the foreigner but the "Colonial" also, and, from what I can gather, we shall have to bestir ourselves if we are to hold our own. I notice that at a recent exhibition a large display of Colonial honey was on view, every jar bearing the certificate of purity and the seal of the packers, every case being submitted to official analysis by H.M. Government before shipping to the Government bonded warehouse in London. We must remember that it is not the opinion of a few British bee-keepers as to the flavour of the Colonial honey but the public at large. If they once learn to appreciate the flavour of the Colonial honey the British will have to come still lower in price, and then we shall have more "Disappointed Cottagers" when they find the honey trade as well as the corn trade drifting into other lands.—W. Woodley, *Beedon, Newbury.*

BEES AND COTTAGERS.

[2714.] Why must we always dangle the bait of £. s. d. before the eyes of intending beekeepers? Cottagers may take my word for it that there is no particular enjoyment in the possession of many £. s. and d's. Better to keep a few hives and consume the produce in your own cottage, and make a little present to your friends, than produce a huge quantity of an article that you have not the ability to place satisfactorily on the market.

In your last issue a "Disappointed Cottager" states that he has only two hives, and of the honey produced this year he has still a large portion unsold. But I say, why try to sell it at all? Eat it on your own bread instead of so much butter, use it with porridge, in cakes, give it the children on their bread instead of lard and marmalade, and leave a little more in the hives for the bees themselves. It is absurd to feed bees with foreign sugar in this land flowing with milk and honey.

Let us put the question of £. s. d. on one side, and regard bee-keeping from a higher point of view. The intellectual enjoyment that is to be had from the music of their wings as they ply their trade, bartering pollen, shall I say, protoplasm? for bags of honey. It is not the body only that requires food; that is proven by the way cottagers (and others) decorate the window with sweet-leaved geraniums and graceful fuchsias, or suspend from the ceiling painted china-ware, or put china dogs on the mantel, or, outside, have their little beds of lilies-of-the-valley, lads-love, primroses and polyanthus. These things minister to a dim craving for what is beautiful, they feed the eye, the ear, the brain. The flowers are gathered, and breathe a sweet fragrance in the tiny room. They require attention, such as repotting and watering, but this is done ungrudgingly for love. And so we should not grudge the time or count the money spent on bees, remembering that they, like flowers, feed the eye, the ear, the mind.

SPARING THE EDITORS.

Your querist, "A. H.," North Bucks (poor North Bucks!) is far too clever for me to tackle. Fancy inventing a frame-end that does not get stuck over with *pollen!* and driving bees out of skeps into bar-frames! It shows that a man who has been a joiner over forty years can do, and say, anything. I mean "everything," of course!—Lordswood.

DOINGS OF THE PAST MONTH.

[2715.] We are told that a certain very dark-complexioned gentleman has a happy knack of "finding mischief still for idle hands to do," and I have been lately thinking how good a thing it must be—so far as giving a wide berth to our coloured friend—for a man to turn bee-keeper. Why, I never knew an idle bee-*keeper* yet! (that is, so far as I understand the word italicised), and although the last month is perhaps the dullest of the whole twelve, so far as work in the apiary is concerned, yet, instead of having an easy or idle time of it in November, I am busier now than ever. In the days of my novitiate—good old days—with pound jars (not screw-caps either) of honey selling at 1s. 9d., unglazed sections at 2s. 6d. apiece! There were no "Disappointed Cottagers" then. But were we all contented? Not a bit of it! High prices were the rule, and we looked for them, and expected them as a matter of course. In fact, prices were high all round. Why, the first numbers of our own Bee Journal used to cost 10½d. each! and a month to wait for each issue. Other necessaries also in the same ratio. No grumblers in those days, say you? Well, just a few, but they couldn't ventilate their grievances in your columns at *that* price, and so we small fry had to stand aside, listen to our betters, and be thankful! Good old times, no doubt!

I see Mr. Wells has favoured us on page 454 with his report for 1896. He still gets that "big cake" of wax! From about the same

weight of honey as his "take" amounted to this year my "cappings" weighed 3½ lb.! Fancy the difference between Mr. Well's £1. 11s. 6d. and 5s. 3d.! No need to ask if he is a "contented cottager"—by the way, I should be "contented" too, in the way of wax, with 21 lb. of it in harvesting 4 cwt. of honey.

Two important events have come and gone during the last month—viz., the Dairy Show and the Conversazione. As to the former, I wonder who mixed up the honey and packages? Is this one of the "owner's risks"? I suppose the attendance at the Conversazione was a "record" one, and, as a whole, the proceedings were most enjoyable; although they did extend from 4 to about 8.30 p.m.

Outdoor work in the apiary is now practically at a standstill. I paid two visits to the "works" in Kent and carefully examined contents of the "comb cupboard." This was a long but, as it proved, a very necessary task. Mice had visited four or five of the outside combs of the rows (the inside ones do not provide a "mouse space"), and removed a little pollen that happened to be in each, but beyond this did no harm. I repacked the frames twelve in a row, and then set burning a little sulphur placed below in a metal tray, and closed the doors for an hour. This would destroy any lurking moth or other insect pest therein. Fumigation is a certain preservative of stored combs, and should be done twice or thrice during the winter months. I also examined the stores of candy on a few stocks and found the 2 lb. cakes—put on a few weeks ago—removed downstairs. A fresh supply was given, because, though possibly not wanted, it makes assurance doubly sure should we get a long spell of hard weather presently. The convenience of the plan I adopt as to making these candy-cakes has, in my opinion, much to recommend it.

I take an empty section, and place paper therein to form a "dish," into which the hot liquid candy is poured. When set, turn the candy out, with its paper casing, and when on the hive it can be at once ascertained whether the bees have carried the food down. If they have, then a three-sided hole is cut in the paper and turned back, and a fresh cake quickly put on top, and it is done before a single bee has had time to think of what has happened. I renewed many of the cakes in this way the other day, and only two bees took wing in doing it. In the good old days (I can't keep them out of my mind), when hives cost a couple of guineas or so each, and a cart was needed to get them home, I made my own, but now it not only encroaches too much on my time, but somehow the wood seems harder to work on than it used to be, or it may be the bad workman's usual complaint about "the tools," &c. Anyway, hives and appliances are so cheap nowadays—especially if ordered when the "considerable reduction on orders placed during the dull season" is in force—that I prefer to buy. This caused me to sum up my probable requirements for 1897, and the additional goods for that year are now being made for me; and my advice to others who are likely to require goods next year is to go and do likewise. It is such a comfortable feeling to know that you have got a sufficient stock of working material on hand for any emergency.

Your correspondent "W. W.," Yorks (2695, p. 457), asks for further information as to my system of numbering hives. In reply I would say when, as "W. W." anticipates, a hive becomes tenantless—as it occasionally will by my joining its bees to those of the next stock or from other causes—when, as I say, this takes place the hive retains its original number, and is re-stocked on the first opportunity. The paper for indoor reference is an unstable quantity. It is always altering. For this purpose I take a sheet of note-paper, rule, and head it as follows:—

L q.	S.
ϕ.	Q c.
V.q.	?

The sign in the corner of each square agrees with the record on the hive. In the space under each heading appears the number of the hive, with date above thus: $\frac{1.6.}{41}$ under the letter S shows that No. 41 hive was supered June 1; or $\frac{1.5.96.}{36\ L.}$ under the letters L.q., indicates that hive 36 has a Ligurian queen which commenced to lay on May 1, 1896. When a hive has its queen removed the numbers are obliterated by being scored with a cross in pencil, and its number is placed under the sign ϕ. When a queen cell is given, the number is shifted to the Q.c. section, and date of probable hatching-out added. When the young queen is safely hatched the number is again moved, this time to the V.q. division; and finally, when queen is mated, it is returned to the first portion of the paper. The last section is for

queries and stocks requiring special attention; in this I place the numbers below one another and add a few words as to what the query in question may be. When the paper has been much altered and becrossed, I make out a new one showing the then present conditions of the apiary.

I hope this is clear, but if it is not so, or any other point occurs to the mind of any of your readers, I hope they will not be backward in communicating with you, Messrs. Editors, as it may be a matter of interest to others besides themselves, and I will do my best to elucidate the queries raised.—HENRY W. BRICE.

THE LAUREATE AND BEE-KEEPING.

[2716.] Having lately read that charming little book by Mr. Alfred Austin, "The Garden which I Love," which, by the way, is quite inimitable and, as you may suppose, interspersed with some exquisite poetry, notably those lines which I can only quote from memory and inexactly :—

"If love could last,
The future would be as the past,"

and the concluding stanza no less chaste than consolatory :—

"But love *can* last,"

I took the liberty of writing to the author, who is a Kentish man, to say how much I had enjoyed his book, and that, although I observed that bees were only incidentally mentioned (for instance, a bee is described entering within the golden chalice of a gorgeous tulip, whose closing petals effectually imprison the little labourer), I felt convinced that the garden which he loved possessed an apiary, for, if I might be allowed to say it, "no garden was complete without one." I expressed the hope that our County Association might have the honour of numbering him among its supporters. To this letter I promptly received a polite reply from the Poet's private secretary. It ran thus :—

"SIR,—The Poet Laureate desires me to say that he shall be happy to be a member of the Kent Bee-keepers' Association, and assumes he can pay his subscription to the Honorary Local Secretary for Ashford."

I think the K.B.K.A. fortunate in having its claims recognised by so distinguished a poet. Goethe has sounded the bees' praise in a very prosaic line, "For industry the bees' thy model." I venture to say that if ever our Laureate does devote a lyric to the hive, it will be thoroughly worthy of the subject.—E. D. TILL, *Eynsford*.

NOTES FROM THE WEST.

IMPORTED FOREIGN QUEENS. TESTIMONIAL TO MR. J. MARTIN.

[2717.] I began to think I was served worse than other people, *re* foreign queens, until the various reports and experiences appeared in the B.J. For myself, I sent early in September for a Carniolan to a party—name and address given in your columns though not an advertiser—and, in spite of two or three subsequent letters, have never had even a line in acknowledgment of receipt or cash sent. There may be unavoidable delay in despatch, but is it not altogether unbusinesslike to deal in this manner with people's money? I mention this in order that if others are similarly situated it may be an advantage to know of them. M. Paglia served me very magnanimously *re* an Italian. I sent for one queen, which duly arrived in nine days from despatch of order, but in such a condition that the bees would not accept her. I at once sent word to sender, when, to my agreeable surprise, another came to hand with the utmost haste, without a word of murmur or comment.

On Friday last, those of us who are the favoured members of the Bristol B.K.A. Committee had a sort of "lump-in-the-throat" experience when a farewell was taken of Mr. John Martin, the faithful and devoted expert of the Association, who was then presented with a purse of money as a testimonial from the members, who have in him lost a sincere friend and adviser. At the meeting several spoke in warm acknowledgment of his always ready services, and wished him a hearty "Godspeed" in his newly-adopted home in South Africa, whither he is setting sail on Saturday. In reply, Mr. Martin mentioned the fact of taking out some English queens with him, and promised to report himself to us, through the B.J., from time to time. I believe he is already engaged to start one or two large apiaries there. We all feel, somehow, that we shall "ne'er see his like again."

Bees were on the wing to-day (23rd), and on turning up corners of quilts all appeared in splendid condition, including my long hive of ten nuclei of three frames each which I mentioned in last "Notes."

Referring to revised rates for honey by rail, I have just paid four shillings to the Midland for a hundredweight from Alford, in Lincs, which, by the way, is "rare good stuff." Is this "revised"? If so, I don't care how soon they revise again.— AMATEUR, *Totterdown, Bristol, November* 23.

[Regarding cheap transit for honey by rail, we trust readers will take careful note of Mr. Brown's letter (2708, p. 468). The writer has a large experience of sending goods by rail, and his advice thereon may be taken as reliable. —EDS.]

BEES AND COTTAGERS.

SELLING HONEY : DO BEES PAY?

[2718.] I do not quite agree with your correspondent, "A Disappointed Cottager," even in his reply in B.J. of last week (2704, p. 466) concerning the profits of bee-keeping. It was certainly unfortunate for him to lose his first two stocks by foul brood. Moreover, it

shows pluck on his part to try again, and I trust he will meet with better success in selling his produce. For myself, I am a small producer, having only five colonies of bees, and rarely take less than 40 lb. from one stock. This season I got sixty-six sections after losing a swarm from a single hive, and left abundant stores for winter. I contend that a small producer *can* compete with the large one, locally. There are several large bee-keepers close to me that sell their honey for what they can get—5d. to 7d. or 8d. per lb.—yet all my own and about 50 lb. of purchased honey has been sold by me at 8d. for run honey and 9d. to 1s. each for sections, according to quality.

The plan I adopt is this :—As soon as I have sections or run honey ready to come off the hives, I get all indoors, put clean and neat lace-paper on the sections, put them in a basket with a 2 lb. jam-bottle of run honey, and my son (aged twelve years) takes them round to houses likely to purchase. Being a sharp lad, he generally succeeds. I allow him ½d. per lb. as commission for all he sells, to keep up his interest in the task, and I assure you, he has earned a nice little sum for pocket money that way. I have not bought two dozen bottles in eight years ; my only expenses lie in sections, lace-paper, and comb-foundation. I also study strict economy in bee-keeping, making my own hives, frames, supers, racks, and "lifts" out of old boxes. Three cube-sugar boxes used with care make a hive with 6 in. lift and frames complete for 9d., for "ends" I drive ⅞ shoe-nails into top bar over runner, which acts well, and if top bar is short a hob-nail driven into side of frame does for spacing.

A good and cheap feeder can be made in the following manner :—Take a 1-lb. mustard-tin, pierce two or three holes in bottom the size of a pin. Take a bit of ⅜ in. board, 6 in. square, bore a hole (two-thirds the size of bottom of tin) in centre, and drive four small nails round at equal distance to keep tin firm, and you can place same on hives and fill as often as required without disturbing bees. With regard to foundation I only use full sheets in brood nest in spring, and ½ in. starters for swarms, shallow frames, and sections. My experience is that bees build out starters nearly as quickly and more perfectly when stocks are strong than full sheets. My expenses for five hives this season has been 15s., and my sale of honey per hive has averaged 30s. per hive, or £7. 10s. for the lot, so that my bees pay.—A LOVER OF BEES, *Newbury, Berks, November* 23.

EXHIBITS AT THE DAIRY SHOW.

[2719.] For Mr. Drinkwater's information (*vide* 2703, p. 466), I may say that some one (not by any means "a bad judge") had shown a decided preference for part of his exhibit very early on the second day of the show, and I called the stewards' attention to the circumstance. It certainly would have been more consolatory to Mr. Drinkwater if some relic of his lost "one" had been spared to return, but the metal cap was doubtless found convenient for the conveyance of the honey to its destination.—E. D. T., *Eynsford, November* 19.

SAYING GOOD-BYE.

A Correspondent, dating from Bedminster, sends a cutting from the *Western Daily Express* of the 12th inst., wherein the writer of "Agricultural Topics" in that paper refers to a bee-keeper well-known to our readers as a contributor to the B.J., and who is on the point of emigrating to South Africa. The cutting reads as under :—

"SAYING GOOD-BYE.

"When friends part to meet again, in a few days good-bye seems but a small matter ; but it bears a far different meaning when friends part with the knowledge that they shall never see each other again in England. Here the tide of competition ever flows in strong force, and some one or something must yield to it. Work gets scarcer in rural England year by year, and if tillers of the soil drift into large towns and cities they find the labour market overcrowded, and emigration is the only hope left for them. Consequently, they leave our shores to strengthen and enlarge our Colonies, or else land on alien soils and help to swell the ranks of foreign competitors. The worst feature of this emigration is that the best men go and the weak ones are left behind. Those that emigrate are men endowed with true British pluck and perseverance, who know how to work and are not afraid of it. They should make a living anywhere, even in rural England ; in fact, they are the bone and sinew of our native land, and the loss of them should awaken more apprehension than it does at present. The other day I drove into Bristol, and heard a lecture on "Bees and their relation to Man," this lecture being given at the afternoon discussion class at the Old King-street Baptist Chapel. I was surprised at seeing the rapt attention with which this essentially country topic was listened to by city men ; in fact, to many of them it opened up quite a new phase of country life. Farmers often wonder why townsmen are so utterly callous to agricultural difficulties ; perhaps it is because they know so very little about rural life. The reason for my visiting this class was to wish good-bye to the lecturer, Mr. J. Martin, who leaves in a few days for South Africa. For many Mr. Martin has been a well-known man in North Somerset as the Expert to the Bristol Bee-Keepers' Association. He was equally welcome in the garden of either the squire or that of the humblest cottager who had a straw skep and a swarm of bees. With him was a young farmer, who sails in a few days for Australia, and I could not help thinking that such men as these

we cannot afford to lose. They carry their skill and craft elsewhere, and in the end the British farmer feels the effect."

A contribution referring to Mr. Martin appears on page 477. We have also just received a letter of "farewell" from him, which will appear in our next issue.—EDS.]

Queries and Replies.

[1597.] *A Beginner's Queries.*—[The following queries are sent by a correspondent who writes each on a separate sheet and signs it "Melissa." In order to avoid useless repetition we enumerate the questions consecutively, giving reply to each with one general number for the whole as above.—EDS.]

1. *Carbolic Acid Vapour for Quieting Bees.*—Is there any objection to the use of carbolic acid vapour as a substitute for smoke in quieting bees?

REPLY.—Carbolic acid vapour now and then is not harmful, but for regular use in quieting bees, smoke is, for many reasons, far superior.

2. *Prevention of Swarming.*—Where bees are inclined to swarm in spite of supers being put in, would not swarming be made impossible by putting excluder-zinc over the entrance, so as to prevent the queen quitting the hive? Is there any objection to this?

REPLY.—The above plan and various modifications of it have been tried many times only to fail completely.

3. *Double-queened Hives.*—What is reported of the "Wells" hive seems to suggest that though bees are content with one queen in a hive, they do not object to several fertile queens in the same hive at the same time, provided the queens are kept from destroying one another by division-boards which allow workers to pass, but not queens. Do you regard this inference as warranted?

REPLY.—The perforated division-boards in "Wells" hives do not allow worker-bees to pass through them as stated. The perforations prevent this, while causing the bees of both compartments of the hive to possess the odour or scent. It is only when this has been secured that they are permitted to mix in a super common to all.

4. *Heating Hives with Paraffin Stove for Rapid Feeding.*—Mention is made of this in books on bee-keeping. Can you kindly explain in detail how it is done, so as to avoid risk of over-heating the hive?

REPLY.—As a general thing, heating hives artificially is not recommended. At special seasons—and for very special purposes—it is useful, but rapid-feeding should always be completed in September, and if this is done no artificial heat is necessary.

5. *Sugar Required for Bees.*—Can you say, roughly, how many pounds of sugar would be required in an average year for feeding a strong colony of bees, including spring, summer, and winter feeding?

REPLY.—We see no possible good in our attempting to answer the above question. What should be borne in mind is that a colony of bees needs about 20 lb. to 25 lb. of food to carry it over from end of September to the following March. For the rest, it may be said that in an average year a strong colony needs no feeding at all.

6. *Feeders for Bees.*—Feeders made of tinned iron are apt to rust. Is the rust injurious to bees? Zinc does not rust, but it is on other grounds objectionable for feeders? Wooden feeders absorb syrup, and therefore seem likely to lead to sour syrup. If a zinc or wooden feeder were coated over the inside with beeswax or paraffin, would not this tend to keep the syrup untainted?

REPLY.—We quite admit that, while theoretically there are no objections to iron rust about bee-food, it is not the same with zinc, because of the oxide given off from the latter being poisonous. In the same way, wooden troughs may "lead to sour syrup." Practically, however, feeders, whether of tin, zinc, or wood, answer the purpose of holding the syrup while being carried down by bees, and the harm, if any, is so entirely unappreciable as to render the trouble of waxing the insides unnecessary.

[1598.] *Waxed Paper for Wrapping honey.*—Would you or any of your readers kindly state in your next BEE JOURNAL where may be obtained the wax tissue-paper for wrapping sections, referred to at the recent Conversazione? It would be useful also to many of us to hear of a cheap casing in which a single section can be sent safely by post.—BURLEY BEACON, *Hants.*

REPLY.—Waxed tissue-paper is now used for so many purposes that it should not be difficult to obtain, but so far as we know, the only dealers in bee-goods who stock it for the use of bee-keepers are Abbott Bros., Merchants' Quay, Dublin, and Wood & Taylor, Hathersage, near Sheffield. Mr. Jas. Abbott, of Abbott Bros., Dublin, was the first to call attention to this paper as a wrapping for honey, in our issue for June 25 last (2540, p. 253), and Mr. Taylor, of Wood & Taylor, again referred to it at the Conversazione the other day.

[1599.] *Wintering Bees in "W. B. C." Hives.*—Please inform a novice—1. How to pack a "W. B. C." hive, amply provided with stores for winter? 2. What is the proper dimensions of "splashers"? 3. Are they placed next the bees, and can they be used with "Hill's Device"? 4. If drugget or

house-flannel be used, what are the dimensions and how are they best put on, in an eke or otherwise? 5. What width should entrance be for winter if eke be used? 6. In any case should there be any packing between outer case and body box?—CONSTANT READER, *Talgarth.*

REPLY.—1. If well covered above the frames no other packing is needed. 2. If by "splashers" is meant the material used to protect walls behind wash-stands in bedrooms, they should be cut same size as outsides of body boxes. 3. Yes; but they will not allow of anything underneath which prevents them from lying flat on frame tops. 4. Quilts may be cut a little larger than hive top, to allow of covering well over all. The "eke" is only put above frames when adding extra packing in spring. In fact, its use for this purpose at all is a matter of choice, not of necessity. 5. The entrance to *outside* need not be more than one inch wide in winter so long as there is a full width entrance to the hive proper and an eke below frames. 6. Warm packing between outer case and hive may be added when building up stocks in early spring, but in winter the air-space between hive and outer-case is sufficient protection.

[1600.] *Bees' Cleansing Flight. — Refusing Flat-bottomed Foundation.* — I have been rather disturbed by observing on alighting board of two of my hives a lot of small yellow spots, and from what I read in "Guide Book" I feared dysentery, but on reading your answer to 1589, on page 459 of B.J. for November 12, I am hoping that the spots are simply from ordinary causes. For a couple of weeks we had sharp frosts every night, with a certain amount of sun in the day, but not many bees about. Previous to seeing the spots, we had a change to mild weather, and a lot of bees were flying. 1. How am I to discover whether the bees have dysentery? I finished off feeding early in October, and packed them in for winter. 2. Is it unusual for bees to refuse to work out flat-bottomed foundation in sections? Do you recommend its use? It is certainly much cheaper, or, rather, it goes further than the natural base.—NOVICE, *Liskeard, Cornwall, November* 18.

REPLY.—1. If the spotting noticed on alighting boards is excessive and the "spots" are circular in form rather than rod-shaped, there may be some fear of dysentery. But we rather think that no alarm need be felt on that score. 2. Some correspondence which appeared in our columns a few months ago, tended to show that bees did not take kindly to flat-bottomed or "Van Deusen" foundation. We think, however, that the fault lay with either the manufacture or the material used rather than the shape of the cell. The American flat-bottomed foundation of Messrs. Van Deusen's own make is taken to readily by bees, and is used by many experienced beemen in preference to any other.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

R. T. (Plymouth).—*Zinc Covering for Hive-roofs.*—There is no better covering than thin sheet-zinc for hive-roofs. It is entirely waterproof, and if tacked on to a faulty or leaking roof makes a thoroughly sound covering. Painted light stone colour after fixing, it is neither so hot in summer or cold in winter as to do any such harm as you suggest.

M. H. FORDATI (Farnham).—*Bees Deserting Hive.*—The most reasonable explanation we can give is that the bees have joined themselves to the other stock. If you are quite sure that, when candy was given, there were "plenty of bees," as stated, the presumption is that giving food has excited the bees and, perhaps, those of the contiguous hive at same time, and that the excitement ended by the bees "uniting." The deserted hive has either been "robbed," or else was near starvation point when fed, and this may account for their deserting.

BETA (Dublin).—*Patent Split Sections.*—The section split on three sides is patented (not registered) by Mr. F. Sladen, Ripple Court Apiary, near Dover.

G. M., "A Beginner" (Guildford).—*Honey in Store-combs.*—1. Bees do, at times, store honey in a few cells in frames of comb given them to clean up after extracting. We should either put any so found through the extractor if a few pounds of honey is so stored, or put them away as they are for next year's use if not more than a few ounces. 2. *Honey for Bee-food.*—Honey got while extracting wax may be used for feeding bees, if it has not been burnt in the process. 3. *Rapid Consumption of Candy.*—Taking down candy at the rate of 1 lb. per week tends to show that the candy is made too soft, but it will do no harm if needed as food. The bees will not continue to carry it off so quickly as weather becomes colder. 4. Frost will not damage empty store-combs.

R. GODSON (Tothill, Lincs).—*Experts' Certificates.*—The gentleman you refer to already has a certificate.

E. WILLOUGHBY (Southport) and JOHN BRADLEY (Shrewsbury).—*Honey Samples.*—Honey sent is fairly good, but it is impossible to speak reliably as to its purity without analysis. In sending honey for our opinion, it should be stated where it is from, and if gathered by sender's own bees.

Articles on "Technical Education in Cornwall," "Wasps' Nests for Exhibition," "A 'Royal' Bee-keepers' Society," "Cyclopean Bees," together with several queries, are in type and will appear next week.

Editorial, Notices, &c.

HOMES OF THE HONEY-BEE.

THE APIARIES OF OUR READERS.

The intimation made on page 441 of our issue of November 5 has met with such cordial approval, and has, moreover, been so heartily responded to by readers, as to justify the anticipation that we shall, in course of time, be enabled to present a collection of pictures from nature sufficient in number to place on permanent record a faithful representation of the out-door aspect of the bee-industry in this country at the present day.

Our intention is to insert an illustration once a fortnight in the BEE JOURNAL, and reproduce two in each issue of our monthly, the *Record*, thus meeting the wishes of readers of both journals.

In view of the number of photos already received—and of those we are hoping to get—the publication of the whole will occupy some considerable time; our desire being to make this series of bee-garden pictures as full and complete as our readers will help us to make it.

There will thus be plenty of time—for those who do not now possess a photo of their hives — to have one done in the coming summer when everything looks at its best.

We have before us as we write, *proofs* of the blocks already prepared—very well they look, too—and, being somewhat concerned as to which picture should take precedence, have decided to get over the difficulty, and remove all "feeling" (if any such exists) by presenting one we would for several reasons gladly have seen last, viz., another portion of the Orchard Apiary familiar to readers of the *Guide Book* as being shown on page 141 of the 14th edition.

Before closing, we might mention a little difficulty we are in regarding a few of the photos sent a good many months ago. There was no name written on cards when received, and the particulars which accompanied them have, we regret to say, got inadvertently mislaid. We will therefore be glad if our correspondents would kindly furnish us with the desired information, both for identifying the views, and for the few lines of explanatory letterpress which must necessarily accompany each illustration.

TECHNICAL EDUCATION IN CORNWALL.

AN EXPERIMENT IN BEE-KEEPING.

Mr. John Brown, of Polyphant, Launceston, sends us a cutting from a recent issue of the *Western Morning News* dealing with technical education in Cornwall. On the general subject of agriculture our contemporary says :—

"A valuable report on the work of the Technical Instruction Committee of the Cornwall County Council has recently been issued. It contains not only a record of the progress made in the classes held during the session 1895-6, but gives the results of the manual instruction offered in agricultural districts, and the experiments in fruit culture carried on under the auspices of the committee ; while, as regards the fishing industry of the county, it embodies, in an easily accessible form, a mass of information which cannot fail to be of interest and value to every one who takes an intelligent interest in the subject. As regards the classes, it is enough to say that the number of students has increased from 6,367 in 1891-2 to 15,678 in 1895-6, the latter number including 1,292 agricultural demonstrators and 1,620 attending lectures to fishermen."

The report then goes on to state particulars of the work done by the Dairy School, so far as the great improvement in the quality of Cornish butter, made in accordance with the system taught at the County Dairy School. The point, however, to which we would invite attention is the part of the report dealing with the experiment in fruit culture, to which is added bee-keeping at Callington. Here, with a very modest outlay, the results have been very satisfactory indeed, as will be seen from the following statement :—

"There are three plots in the occupation of the committee—at Callington, Helston, and Penryn. At Callington the plot was originally an acre in extent, and was in pasture when acquired three years ago. An additional half acre has since been added. The capital expenditure is represented by a sum of £84, laid out in 1893-4 on trees, plants, manure, and labour, and six hives of bees, while to this is added interest for three years, making the total £97. The subsequent expenditure on seed, labour, manure, rent, and taxes has amounted to £46, and the receipts for the same period, from sales of plants, fruit, vegetables, and honey have totalled £103. The profit, which amounts in the whole to £57, is divided over the three years as follows :—1894-5, £15 ; 1895-6, £13 ; 1896, £29. It is admitted that if the full rent had been paid on the land the profit would have been reduced to £50. This surely is satisfactory, and bears out the contention that good fruit will

command high prices, though inferior qualities are worthless. The District Committee report that the work is keenly watched by people in the neighbourhood. A large number of them have been supplied with new varieties of potatoes for seed, with grafts of fruit trees, and with strawberry plants, the effect of which has been 'a great improvement in the crops produced, and a decided effort to improve the character of the fruit grown.' Another result has been the revival of the bee-keeping, which was almost extinct in the locality. The committee's example in the use of the modern system of bar-hives has been so extensively followed that bee-keeping in the locality has increased thirtyfold in the past two years. The committee's original investment in bees, six hives, was £11. 10s., and in three years they have sold honey and bees to the value of £22. 3s. 3d., while they have now seven hives, which they value at £12. The investment has, therefore proved very profitable.'

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*"

CYCLOPEAN BEES.

[2720.] I once agreed with Mr. Cowan that the cyclopic bee was a freak of nature, due to the fusion of the five eyes into a large one with facets, and that this curiosity was very rare. Now, however, I believe that cases of cyclopean bees may be seen rather often, when the observer's eyes and ears are sharp enough to discover them. I myself believe that they occur more frequently than do instances of hermaphrodite bees. I only discovered a single hermaphrodite bee this year—head and breast with limbs of a worker-bee, abdomen of a drone, with the appropriate genital organs —but I have seen during the same time more than half a dozen cyclopean worker-bees. By their colour I found out that they belonged to different populations. All of them active, well-formed, and, with the exception of one, outside the hives and trying to fly. The single eye in their forehead was soon a thin half-moon, soon after becoming more compressed and nearly triangular. The movements of this bee-monstrosity are most characteristic when in the open air. With nervous haste they dash themselves on the ground, get up again with a rapid swing in the air, forming but one sharp semi-circular flight little more than the length of a hand, but reaching further at times, then falling back to the ground in the same circular flight. The excited sound they make helped me—after discovering the first flying cyclopean bee—to find out all the others. They seem to possess some instinct of light so far as being able to distinguish obstacles on the ground ; but in flying I think they cannot measure distances. This fact might help to strengthen the notion that the net of their single eye is not used for gauging distance, but rather as a magnifying power. All this might, however, be the result of their abnormal structure. In any future edition of Cowan's "Honey Bee," the chapter on hermaphrodite bees some further observations on cyclopean bees might be added to the numerous cases of abnormal structure.—F. KLEIN, Vicar, *Weyer, Alsace, November* 5, 1896.

WASPS' NESTS FOR EXHIBITION.

[2721.] It may interest some readers if I tell how I got a wasps' nest built under a bell-glass for exhibition. In the spring of 1895 I found a nest just commenced in an empty straw skep lying outside. When first noticed it was about the size of a walnut, and a few of the cells had eggs in them. Thinking how interesting it would be to see the insects at work, I removed the nest, while the queen was "at home," to my own garden, placing it on a piece of wood cut to size of a bell-glass in my possession, and covering the tiny nest over with the said glass. The queen luckily did not desert the nest, and in due time, as young wasps hatched out, they extended the nest in an upward direction.

I should have said that, in the first place, the nest was simply laid on the board. I tried various experiments with my movable nest during the summer. At one time I moved it ten or a dozen yards away to see how the wasps would act ; they were puzzled for a little while, but soon discovered its new location. I think this confirms the opinion of Sir John Lubbock, who believes that wasps have a greater capacity or sharper instinct for finding their home than is possessed by bees. I several times removed the bell-glass cover to examine the nest, as the wasps made no attempt to join the nest on to the glass, nor did they at all resent this interference on my part.

At last the time for holding one of our shows drew near and I intended exhibiting the nest as a curiosity. My intention was, however, spoiled by what happened on one particular morning, which I have good cause to remember. It came about thus wise :—The glass, when laid over the nest, on what I may call the floor-board, overhung the latter a little, and thus formed an entrance for the wasps. Well, when prepared to carry my nest to the show I neglected to move the bell-glass so as to cover

this entrance-way and shut the wasps in. A few of the insects, not relishing being carried off without leave, came out and showed their resentment by stinging me on the face. I care so little for a few bee-stings that a few wasp-"prods" gave me small concern, but when I had got altogether about twenty stings, discretion got the better of valour and the intended "exhibit" was returned to its stand, and neither it nor the "exhibitor" put in an appearance at the show that day. In fact, my face in a short time had swollen to such an abnormal size that I should, perhaps, have been an object of more interest at the show than the wasps and their nest. Fortunately, however, the bee-tent was not engaged at that show, and as I only exhibited honey my personal attendance was not needed. But I had much difficulty in preventing my people from wreaking vengeance on the wasps by destroying the nest. Beyond a certain stiffness about my face I felt no actual inconvenience or pain, and next day I was quite myself again.

I preserved the nest and kept the wasps alive until our county shows were over; but when the extracting season arrived the wasps became an intolerable nuisance in their persistent attacks on the honey, so I had to destroy them. This I did without damaging the nest, by moving the glass cover so as to allow of suffocating the inmates with burning sulphur fumes. I have promised the nest as it stands to a friend for a museum.

Referring to wasps' nests at shows, I should like to remark on the cruel and frequent practice of staging nests of live wasps without the least provision for ventilation, the heat, &c., of a show tent sometimes causing them to be suffocated. A hole in floor-board, covered with perforated zinc, prevents this cruelty by allowing plenty of air.—J. MARTIN, *Expert, Bristol B.K.A.*

A ROYAL BEE-KEEPERS' SOCIETY.

A SUGGESTION.

[2722.] I have a suggestion to make which, if practicable, should be of the greatest benefit to bee-craft generally, and the B.B.K.A. in particular; the welfare of both being of great interest to me.

Let me divide it into two parts:—1. Would it be possible for the Council of the B.B.K.A. to obtain permission from H.M. the Queen to make our Association into a Royal Society, with H.M. the Queen as Patron? Such an alteration from British Bee-keepers' Association into "The Royal Bee-keeping Society of Great Britain," under the patronage of her Majesty the Queen, would be a great stimulus and elevate the craft by leaps and bounds.

Moreover, the present title "British" is somewhat misleading in that it implies influence throughout the whole British Isles; whereas, though there are doubtless members in all parts, I believe that Scotland and Ireland each have their parent or national association.

Then, having obtained a Royal Charter, would come (2). Instead of, as now, having three degrees of experts, power should be obtained to grant diplomas as Fellows, Members, or Associates of this Royal Bee-keeping Society; the Fellows being at first all (now) first-class experts, together with the present Council—the latter *honoris causâ*. Second-class experts would become Members, and third-class Associates. The Examiners being in future elected from the Fellows. The present members would then have to take a back seat merely as subscribers.

Perhaps this suggestion is "tall," and may be premature. I offer it for what it is worth. —F. R. B. S., *Lincs., November* 3.

. [Without entering into the desirability or otherwise of an effort to form a "Royal Bee-Society," as suggested by our correspondent, the consideration which occurs to us—as demanding first consideration—is the probable need, in such an event, of securing some one willing to give a donation of a couple of hundred pounds or more to cover the cost of obtaining a charter, and for defraying the other necessary expenses connected with it.—EDS]

PROFITS OF BEE-KEEPING.

GOOD AND POOR PASTURAGE.

[2723.] Some of your correspondents, I think, are seemingly too severe on "A Disappointed Cottager" (2670, p. 436). It is all very well to laud successful operations, but it is not given to every one to be equally so. Poultry-keeping also has been represented too much as a profitable industry, with the result that many rue their experience. But did it occur to any of the writers that there are many districts deficient in bee-pasturage? My locality is a naked, open country, across which you can look uninterruptedly some ten to fifteen miles or more. Observe the fields and hedgerows—rather huge banks—slovenly and broken fences, the by far greater portion of land under grass, white clover not cultivated and very little of other kind, nor yet mustard; fruit-trees sparingly grown, and no broad acres of beans, this cereal being entirely confined to the limited few planted in the kitchen garden. True, we have heather, gorse, white and black thorn, the two latter being most lavishly profuse in bloom, as likewise the few apple-trees this year—yet, strange to say, I did not see the bees working on either thorn, though frequently watching, and for the first time in my experience did I find them on the heather. But though surrounded with such an abundance of spring bloom, the bees showed a determined preference for that of the limnanthes, and it would be no exaggeration to say they visited it by the thousand. Of all my skeppist acquaintances, there is not one around here who has much honey, some even have not taken any for two seasons; one at a distance had none

from his frame-hive. Why is so much stress laid upon the monetary question of bee-keeping? It is constantly asked will or does it pay? Is there anything to be got out of it? And as often urged it is a very profitable industry. The bait of 40, 60, or even 100 lb. weight of honey being obtained from a single hive. Rather let it be understood that the cottager may reasonably expect 10 to 20 lb. from one hive, and fewer disappointments will be complained of.

When I formed my apiary it was done as an adjunct to occupy time, with a prospect of some return for outlay, and food to supply the wants of the table. Various success has followed from a lean and poor, to a fat and good quantity. I have not bought fresh butter for two years; the honey has supplied its place admirably, and friends who have dropped in for the social and "cheering cup" have greatly enjoyed the change. I drove one lot for a neighbour, and the result was about 5 lb. of very dark and strong flavoured honey, such that I should not care to use other than to feed the bees. My grocer, too, complained of similar uneatable quality being offered for sale. My own taking is considerably below the expectation, being about one-fourth of last year's; and as I have five or six frames of sealed food for their winter use, the surplus is small, still the quality is good, and fetches a good price. I have not at any time sold for less than 1s., and have realised easily 1s. 6d. a pound; sections according as they were filled from 1s. to 1s. 6d. In other parts of the county the price has ranged—skep-honey—from 6d. to 10d.

Several of my London friends complain of the poor and indifferent honey they buy; so very unlike the genuine article. Now here, then, I ask, why not persuade cottagers to keep bees primarily for the wholesome food they gather, and they may then save the money usually spent for butter or lard, both of which sometimes are unfit to eat? That which I do not sell is consumed by ourselves. As far as I know of the people here, honey is chiefly used as a medicine, so where a family might consume twenty or forty pounds in the year, one or two pounds or less is made to suffice to administer in case of sore throats or colds.—J. Q., *New Hedges, November* 25, 1896.

BEE-KEEPING IN NORTHERN LANDS.

[2724.] The sixtieth parallel of north latitude, with its long and very cold winter, does not suggest, I dare say, to the average bee-keeper, a suitable locality for successful bee-keeping, if, indeed, he has ever given the subject a thought; yet that this fascinating hobby or industry can be carried on under such adverse conditions, on a comparatively large scale, I have had ample opportunity of witnessing during a prolonged residence in Sweden.

When I mention that a temperature of $-25\frac{1}{2}$ deg. F., or $57\frac{1}{2}$ deg. of frost, at 8 ft. from the ground—a temperature far below anything usual in this country—occurred on two days during the winter of 1894–95; and further, that 0 deg. F. to -15 deg. F., or 32 deg. to 47 deg. of frost, are quite common, and that the *mean* temperature for the six months, November to April, is 31 deg. F., or 1 deg. of frost, and for the year 41 deg. F., your readers may judge of the difficulty in rearing such sensitive organisms as bees under such adverse conditions.

In the little village of Kolbäck, in the province of Westmanland, Sweden, I became acquainted with the enthusiastic secretary and treasurer of the Westmanland's Bee-keepers' Union, Mr. Johan Forssell, who has in his garden thirty strong colonies. His hives consist of one "Wells" hive constructed on the model of one got by him for the Union from Mr. Meadows, twenty frame hives, of Danish pattern I believe, and the rest straw skeps. The hives have all double walls, the space between being filled with non-conducting material, and they stand out in the garden all the year round. Mr. Forssell is a man of original ideas, and has many interesting theories on the subject of bees. This year he commenced to rear queens on an original system, I believe, and has already sent two to Canada. This northern stock is no doubt very hardy. If your readers would care to hear more about Mr. Forssell's system and theories, I shall be glad, with your permission, to describe them to the best of my ability.

Should any of your readers happen to travel in the fair land of Sweden, I should advise them to pay Mr. Forssell a visit, and I can assure them of a hearty welcome, and an interesting remembrance.—J. Baillie Hamilton, "*Barwic*," *Pollokshields, Glasgow, November* 30.

PRICE OF CANE SUGAR.

[2725.] I have noticed with great interest your frequent mention of a reduction in the price of pure cane-sugar, and the welcome which such an announcement would meet with from your readers, as well as being gratifying to yourself (page 462 of B.J., November 19).

But, may I ask, what about those who are greatly dependant upon sugar from the West Indies fetching a good price and ready sale?

So there are two points to this important question, of which perhaps many of your readers have never thought. There must be some bee-keepers who, like myself, are greatly affected by this change in prices, although it is nice to be able to buy cheap sugar; but to those who possess sugar plantations it is more than a very serious matter. I hardly know if this comes within the range of apiculture, but it is often well for us to be alive to these things.—R. Hamlyn Harris, *The Conifers, Hambrook, near Bristol, November* 25, 1896.

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

The apiary depicted below consists entirely of the type of hive known as the "W. B. C.," so called from its having—as most readers know—been designed by the junior Editor of this Journal. Located a dozen miles outside London, on a hillside just above the village of Orpington, in Kent, it will be seen that the hives occupy a very unorthodox position—so far as general opinions go—under the trees in a fruit orchard. But we can only say that bees do very well so placed, and if circumstances or convenience necessitates such an arrangement, there is no reason why an orchard apiary should not be more often heard of than is now the case.

MR. W. BROUGHTON CARR'S APIARY IN KENT.

We desire to encourage those of our readers whose apiaries are to be included in the "Homes of the Honey Bee" to send us for publication so much of written description of the place and of the owner's bee-work as will about fill one page, inclusive of the illustration. With this end in view, we set out as above to write something which might serve as a sort of model (for length only, of course). Nor is there anything in such a task which contributors or ordinary readers should find uncongenial or other than proper and pleasant.

But after penning the dozen lines or so which head this page, we found that an editor thus engaged in, so to speak, so completely "a round peg in a square hole," that we could not get on, and gave up the task. We, therefore, fill up the prescribed space by quoting instead a few lines—descriptive of a friendly visit to the place paid some time ago by our friend and erstwhile regular contributor, "'Xtractor," which appeared in our pages at the time, and may be more or less appropriate for the purpose. He says :—

"Among the scores of bee-gardens I have visited, yours is the first I ever entered down a flight of steps!—and, stranger still, you have, of distinct set purpose, all your hives under trees, the fruit-trees in the orchard bee-garden.

"Thus do you suit yourself to your surroundings, and modify the hard-and-fast dictum so often given out, 'No hives under trees.' So it ought to be, but I quite agree that this law may be broken occasionally with advantage, as in the case of your 'garden,' on which a southerly sun strikes remorselessly in a hot furnace-like valley, in a scorching southern county. What but swarming could result from such an aspect, and what better could you possibly do to minimise the evil than place the hives so cunningly under the shade of trees, where they will not catch the drip of the leaves, and where the light and tempered warmth come filtered through the green network? It was well thought out before the step was taken

of so placing them ; how the leaves would protect them in summer, whilst in winter the bare branches kept the hives warm on bitterly cold nights, by preventing the radiation into space of the heat the earth had absorbed in daylight or in sunshine.

"And then I found what 'I went out for to see'—what everybody would expect to see in an editorial bee-garden—hives the perfection of neatness, uniformity, and completeness. What struck me most was the *exceeding* deliberation and calmness exercised in manipulation. Compared with that of other noteworthy bee-masters, it, at first sight, seemed excessive ; but when one saw how 'tame' the bees were, the truth of your teaching that it is almost impossible to be too easy, slow, and steady even in the least manipulation, came back to me with full force. The bees, frames, and sections were handled as the angler's worm ought to be when carefully impaled on the hook—as if you loved it.

"It might be thought that sections and shallow-frames three stories high, and raspberry honey coming in at such a rate on July 2 that it was determined to 'mix it in' with the rest in autumn, would make me envious when I thought of my bees 'up and doing nothing' in my district, nearly destitute of good bee-fodder ; but I am so much advanced in years that envy (upon which I wrote my first essay) now finds but little place with me."

The inexorable and increasing demands of editorial work on our time of late have necessitated "moving in" nearer to town, and a consequent moving out of our bees further away into Kent, where they are located under the eye of a friend—who has kindly given them house room. We are thus perforce compelled to keep just a few at home, to keep in touch with the bees, and visit the others as often as time permits and season requires.

NORTHUMBERLAND AND DURHAM B.K.A.

A honey show under the auspices of this Association was held in the Corn Exchange, Newcastle-on-Tyne, on November 18 and 19, in connection with the Newcastle, &c., Botanical Society's exhibition of chrysanthemums. This, probably, is the first exhibition of honey held in Newcastle for many years, and the enthusiastic support given by local bee-keepers was very gratifying, especially so when it is considered that, generally-speaking, poor returns were obtained from the bees during the past season, the heather harvest being a complete failure in many districts. The exhibits staged by the eighteen competitors in the class for heather sections was pronounced by the judges to be of specially excellent quality. Mr. Wm. Codling, Hartburn, and Mr. T. Fenwick, Netherwitton, officiated as judges, and made the following awards :—

Six 1-lb. Sections.—1st, J. Cuthbertson ; 2nd, R. Youngman.

Six 1-lb. Sections Heather Honey—1st, R. Huggup ; 2nd, J. Cuthbertson ; 3rd, J. L. Balmbra.

Single 1-lb. Section Heather Honey (Members only).—1st, R. Huggup ; 2nd, J. Youngman.

Display of Honey.—1st, E. Middlemass ; 2nd, J. Youngman ; 3rd, S. Lightfoot.—(*Communicated.*)

SURREY BEE-KEEPERS' ASSOCIATION.

At a meeting of the Executive Council of this Association, held at Clapham Junction on Saturday, November 21, 1896, amongst other important business which was then transacted. Mr. Archibald Seth-Smith and Mr. J. W. Jacomb-Hood were elected representatives of this Association on the Council of the British Bee-keepers' Association, to attend the Quarterly Conferences. The office of hon. secretaryship having become vacant owing to the resignation of Mr. C. E. Cuthell, Mr. F. B. White was asked to undertake the duties, and having consented to do so, that gentleman was duly elected hon. secretary. It is therefore requested that in future all communications should be addressed F. B. White, Hon. Secretary Surrey Bee-keepers' Association, Blenheim Villas, Redhill.

GOOD-BYE, AND A RETROSPECT.

I never realised before what a world of meaning the words good-bye convey ! I have often used them when parting from friends in this country, but, on leaving home for South Africa, they seem to have a new meaning. To break away from friends and old associations—perhaps for ever—is harder than I at least anticipated ; and as I leave the dear old country on November 28, I take a retrospective glance at my bee-experiences during the years that are gone, my earliest being finding a stray swarm of bees in the orchard on the farm where my father worked for twenty years ; hiving and carrying home the bees in the evening to our cottage garden, where for the next five years they increased and replenished the sweetness of our cupboard. Sugar 4d. per lb, in those days, and when all the common necessaries of life had to be provided for a long family out of 7s. per week, you may guess that sugar was scarce, and honey much appreciated in consequence by the younger members of the family. Not much consideration was, however, shown for the poor bees. We repaid their labours with sulphur fumes, and I can remember the horrid "whizz" when my father used to put them over the "pit." After

leaving home I again got some bees, but each autumn the sulphur-pit confronted me, when, about the year 1882, I first saw a "bee tent," and bees driven, seeing a queen for the first time.

This fairly aroused the bee-fever in me, and step by step I advanced in the craft until an association was formed in our county, when I was chosen to do the expert work, which I have continued to do ever since. I was anxious to get the coveted certificates of the B.B.K.A, and passed for the third very easily. Then, after failing once, got my second. Concerning these certificates, I have sometimes asked myself are they worth all this trouble? but I am now glad I persevered, for there is something in the certificates after all, and it was shown curiously in the number of inquiries I received in answer to an advertisement put in a South African paper. I have been offered several good engagements to start apiaries for gentlemen in connection with large fruit farms over there; I refused one at Madeira, as I had made my mind up for Africa, and am now thinking of starting an apiary of 100 hives in connection with a fruit farm, and shall be pleased to let you know how I am getting on. I am taking out two lots of bees with their queens with me. And now, in saying good-bye, let me thank the members of our Association for all their kindness, and not forgetting yourselves, Messrs. Editors, and all the contributors to your esteemed journal, from which I have learnt much.—J. MARTIN, *Expert B.B.K.A.*

Queries and Replies.

[1601.] *Working With Double-Queened Hives.*—1. Is it necessary to use a perforated dummy in a box of shallow-frames worked above the two compartments of a "Wells" hive? I ask this because all the illustrations of these hives which I have seen show a dummy; but if bees may safely mix in a rack of sections I fail to see why not in a box of shallow-frames. 2. I have a "Wells" hive which has been used this year for two separate stocks, the bees never having mixed. Will it be safe to admit both lots of workers into one super next season, seeing that the holes in perforated dummy now dividing the body-box are so propolised as to cut off all chance of bees acquiring the same scent? *Entrances to "Wells" Hives.*—3. Do you advise having the entrances to "Wells" hives at each end—which necessitates one facing either north or east—or is it better to have both doorways in front facing south? *Queens Hatched late in Autumn.*—4. Will queens hatched too late in the autumn of '96 to begin breeding this year have any chance of being fertilised without my knowing it? I have two stocks, each with young, late bred queens, but am not sure as to whether they are mated or not. Your replies will oblige WINDMILL.

REPLY.—1. On reference we find very few illustrations as our correspondent states; on the contrary, nearly all show the super without a dummy at all. In fact, allowing the worker bees of both compartments of the body-boxes to mix in a super common to all is one of the fundamental principles of the "Wells" system. 2. We should advise careful removal of perforated dummy the first fine day, and freeing-perforations from propolis so as to allow the bees to form one cluster during the winter. If this is successfully done it will secure one great point Mr. Wells aims at, viz., early breeding, and prepare the bees for working amicably together in early honey-season. 3. Personally we should prefer one entrance in front and the other at side of compartment, the hive being placed with its *length* facing south. By doing this and making the side entrance face east, the two doorways may be—at critical times—placed as far apart as the extreme corners of the hive will possibly allow. 4. Queens not mated now will be useless for next year's work. If, therefore, any uncertainty exists on the point of fertility, the only thing is to keep an eye on the earliest brood seen in the early spring, when it will be easily seen if drone-brood is being reared in worker-cells.

[1602.] *Moving Bees from Outside into Bee-house.*—I don't like to trouble you with frivolous questions, but there are one or two points I should like your opinion on. I am thinking of putting up a small bee-house about 10 ft. by 6 ft., and I want to erect it on the exact site of my present open-air hives, so that I must move them before beginning the house. I have been offered a dry, dark cellar, but it is not under my own house; there are also children in the house over the cellar, and I am afraid that their noise might disturb the bees if they were romping or playing about, and I feel a bit shy of cellars after reading someone's experience a few weeks ago in B. J. Or would it be safe to move them, say, a quarter of a mile away while I was erecting the house Another trouble is that the present hives cannot be used in the house even temporarily, as one is a "Wells" and others are combination hives, and with the bees flying from the ends and consequently facing opposite quarters of the compass. Therefore when the bees are brought back they must be at once transferred to new hives, and I am afraid that to move them from one hive to another, say about January, would be risky. Could I do it if I were to heat the new house, say to 60 deg. by means of a stove, and have the new hives nicely heated too; or could the transference be done in a warm greenhouse? What I am afraid of is that many of the bees would fly, and consequently get lost through cold. Is it best, in making the new hives for the house, to

let the ends of frames project beyond the sides, or to put on plinths, so that there will be, say, ½ in. of wood beyond the frames? It seems to me that doing so makes them appear clumsy, as they would be only 16½ in. at bottom if made of 1 in. stuff, and 18 in. over at top. After this long explanation of the "conditions," you might, in order to save your time and space, answer me in this way. 1. Is the cellar, or moving a quarter of a mile away preferable? 2. Can the bees be moved safely into new hives, say in January or February? 3. If so, is the new house or a greenhouse preferable? 4. Is it better to let the ends of frames project, or have plinths.—G. C. LYON, *Hastings, November* 27.

REPLY.—1. We should only move the bees a sufficient distance to permit of the house being erected, and, when finished, replace them with their entrances as close to the permanent position the hives will occupy in the new house as possible. 2. No. 3. Wait until spring is well advanced, and then transfer. 4. The ends of frames must be enclosed if a 17-in. top-bar is used with "W.B.C." metal ends, otherwise a "short," or 15½ in., top-bar will be needed, worked in a rabbet formed in hive side.

[1603.] *Yellow Deal as Material for Hives.*—Yellow deal, on account of the quantity of resin which it contains, will bear exposure to weather well, and so would seem well suited to make hives; but it is said that the bees dislike resin and turpentine, and therefore that yellow deal is objectionable for hives. At the same time, bees seem to frequent fir trees for propolis or bee-glue, which seems inconsistent with their disliking resin and turpentine. What is the truth as to the advisability of making hives of yellow deal? —PHILOMEL, *Oxford.*

REPLY.—If we were ordering hives from a manufacturer, and the latter offered to make them of yellow deal—or pine, as we understand the term—we should be rather pleased than otherwise. But if he proposed to use "white deal," or "spruce," we should decidedly object, because of the tendency to shrink and crack in the last-named timber. "Pitch pine" might possibly be a little objectionable to a swarm when first hived, but no one thinks of using that particular material for bee-hives. Yellow pine is the best and most suitable wood for the purpose.

[1604.] *Populating a Wells Hive Advantageously.*—I am the owner of two stocks of bees in bar-frame hives, and this winter have ordered a "Wells" hive, and would ask—how can I populate this hive and keep my two stocks to most advantage?—C. C. TURNER, *Kempston, Beds, November* 29.

REPLY.—Presupposing that the stocks now in hand are strong in the coming spring, the simplest and perhaps most advantageous plan will be to get the bees into as forward a condition as possible, super in good time, and let both stocks swarm. Then, as each top swarm comes off hive it into one compartment of the "Wells" hive, contracting the space to about five frames. When the swarm is comfortably "fixed up," place queen excluder above frames and set on the supers previously removed from the parent hive. Repeat the operation when the other hive swarms, using, of course, the second compartment of the "Wells" for the purpose. You will thus probably get nearly as much surplus honey as if your present stocks had not swarmed at all, and by making up a couple of nuclei from the swarmed hives may be able to re-queen the "Wells" hive with queens of the current year, thus closing the season of '97 with young queens to all your stocks.

[1605.] *The Comparative Merits of Native and Italian Bees.*—What is the truth about this? Virgil, who had no pecuniary interest to serve, distinguishes the two varieties, and extols the superiority of the Italian kind. But the experience of some modern bee-keepers seems to leave the matter at least doubtful. Is it possible as yet to arrive at any definite conclusion about it?—MELISSA.

REPLY.—No "*definite*" conclusion is possible, so far as the comparative merits of Italian and native bees for use in this country. We can only say that the former—while still imported and seeming to find favour with a few—makes no real headway among practical men of long experience. We make no attempt to enter into the "why and wherefore" of this fact, but that it is a fact few will deny. On the other hand, the value of the Italian bee for crossing with our own is undeniable, and is, moreover, generally admitted.

[1606.] *Honey* v. *Syrup.*—Some assert that bees if fed with syrup will hang about the hive and neglect to gather honey. Others say that bees will not take syrup if they can find honey abroad in the fields and gardens of the country. Which statement is correct?—PHILOMEL, *Oxford, November* 21.

REPLY.—The first assertion contains just the modicum of truth which prevents us from saying there is no foundation whatever for it. As a matter of fact, if the syrup-feeder is constantly on a hive at a time when natural food is scarce, bees will, of course, do less "searching" for honey flowers abroad than if unfed at home. Regarding the second statement, it is a fact well known to bee-keepers that at certain seasons, when honey is abundant in the fields and gardens around, bees will frequently refuse to notice syrup food if offered to them.

[1607.] *Uniting Queenless Bees in December.*—1. I have two queenless hives in my lot; could they be united to others so late in the year with safety? *Trees and Plants useful to Bees.*—2. Which is the best lime for bees, scarlet or yellow-twigged? 3. Does maple produce a good class honey? 4. What

is the botanical name of the willow that is so much praised for honey? Is it Salix alba, or are all willows equally good? 5. Is the poplar a honey tree? And if so, which of the varieties is best? 6. Is the common furze useful as a honey plant? I have seen the bees collecting pollen from it during the fine hours of the past week.—"INQUIRER," *Newmarket-on-Fergus, November* 27.

REPLY.—1. If care is taken they may be joined as desired, but these operations should never be delayed so late if it can be possibly avoided. 2. The best for honey is the common lime, *Tilia Europea* (var. intermedia). The others you name—red-twigged (var. rubra) and golden-twigged (var. aurea)—are not nearly so good for bees. 3. The maple is not regarded as a honey-yielding tree at all. 4. *Salix cuprea.* This willow yields pollen very abundantly in early spring, but very little honey. 5. No; none of the poplars are of any value for honey.

[1608.] *Removing Bees from Hollow Trees.*—Could you or any reader of the B.B.J. tell me how to get a colony of bees out of a hollow tree with only one entrance, without damaging the tree, into a bar-frame hive? I have thought of fastening a box with frames of foundation and a cone escape at the entrance to make them work through the box. Would you advise me to put a frame of brood if the queen did not come out, how long to leave it there, and the best time of the year to operate?—G. H. BROOKS, *Ashleworth, Gloucester, November* 23.

REPLY.—We confess our entire inability to say how the removal can be effected as desired without damaging the tree, but so far as our correspondent's own proposal is concerned, it would not succeed at all.

SECURING AND MANAGING SWARMS.

The season of 1896, in point of swarming, has been a remarkable one. The bees lightly set at naught all the accepted canons of bee-keepers respecting that function. Lack of great strength had little restraining influence, and abundance of room, even in the brood-nest none at all.

Swarming began the last of May, continuing just a month, during a very moderate flow of nectar, ending abruptly when that flow was at its best at the height of basswood bloom, though even then the secretion of nectar was very light. Not more than one or two per cent. of the colonies did anything at all in the supers before casting swarms, and many did not wait to fill the combs in the brood-nest. Under such circumstances it is safe to say that it would be wise to cease efforts to determine the best methods of securing and managing swarms, on account of any bright prospect of speedy success in breeding out the swarming instinct, or even of any satisfactory invention that will practically allay it. Indeed, it is a very serious question whether, if this object could be secured in either of these ways, it would be satisfactory to more than a very small percentage of apiarists.

There are always more or less losses from various causes to be made good, and there is no cheaper or more satisfactory way of doing this than through the increase by swarming. The loss of even a few colonies each winter during a series of unfavourable years, where there is little or no swarming, with occasional failure of queens and lack of stores, often best met by the uniting of colonies, sometimes makes the aggregate reduction in numbers rather startling. Then the serious item of the rearing of queens comes in, which must be done artificially if increase is secured without swarming. No doubt as good queens can be secured in this way as those obtained from cells built and cared for under the swarming impulse, but how few, comparatively, are the apiarists who have the aptitude, skill, and punctuality required to do it. Nineteen out of twenty, for one reason or another, would fail, and in these times of financial stringency and uncertain honey crops, they cannot afford to purchase. Besides, it can hardly yet be safely denied that bees receive an impetus to work by finding themselves in their newly-pitched tent destitute of brood and provisions.

That there are some weighty objections to swarming, if it could be safely repressed, is not to be denied; but these may be reduced to two, namely, the time and labour required for watching and hiving swarms, and the danger of loss from swarms absconding. Some may hold that undesirable increase is another and more serious one still, but one should be easily able to obviate that, and indeed thereby reap a decided advantage. It is only a question of the disposal of the brood in the hive from which the swarms issue, and that is generally very valuable, especially in early swarming. To accomplish this, it is not necessary—as might be inferred from some discussions of the subject—that the brood, when hatched, or before, should be returned to the identical colony that produced it; indeed, it may usually be used with greater advantage in other ways. There are always at the opening of the honey season some colonies not up to the strength required for the best work in the supers. Let the hives full of rapidly-hatching brood be distributed among such deficient colonies as fast as they can be obtained, first driving out of each all the bees left behind in the hive which with its swarm is, or is to be, put on the stand. Thus, in a few days, if swarming continues, all may be got into excellent condition.

Frequently, also, there are colonies out of condition on account of being possessed of superannuated or otherwise worthless queens. Destroy such queens as fast as hives of brood

can be obtained, and place a good one on each now queenless colony, and in a few days it will be rejuvenated both in its strength and its queen. In some of these operations the advantages of a horizontally-divisible brood-chamber are especially apparent, for if one wishes to help two colonies with the brood of one, it can be done without extra labour; or if one wishes to rear a few surplus queens to meet emergencies without driving out the bees remaining after the swarm issues, by simply dividing the brood-chamber he may secure two queens as easily and as cheaply as one.

Other ways of disposing of the brood thus obtained through swarming will occur to every one in practice, so that soon instead of deploring its abundance one will be likely to wish for more.

There is one principle that is valuable in this condition which I should recall before passing, and that is, that a colony having a laying queen of the current year's rearing can be pretty surely relied upon not to desire to swarm, no matter how strong it may be made within any reasonable bounds; and the same rule holds if it has a virgin queen, if there be not also occupied queen-cells in the hive. This fact may be taken advantage of to safely make some of the strongest possible colonies, and at the same time the most profitable ones, notwithstanding the notion which some cherish (but without good reason, I believe) that the possession of a virgin queen renders a colony unprofitable for comb honey.

(*Conclusion next week.*)

BEES AND BAILIFFS.

"I hear from Oxford of a laughable trick to get rid of bailiffs, which was played the other day in a village near the university city. A couple of these myrmidons of the law took possession of a householder's dwelling, and ignored both cajolery and threat to induce them to begone. The invaded one, having consulted a lawyer as to the legality of his proposed plan, returned home, and appeared in the house with a hive of bees under his arms. Again he commanded the intruders—once, twice, thrice—to get them hence. They were obdurate, and the householder forthwith flung the hive on the floor. Alarmed at this rough handling, the community issued forth on mischief bent, and the bailiffs, deeming discretion the better part of valour, turned tail and beat a precipitate retreat, leaving the victorious householder to chuckle over the success of his scheme and to barricade the house against future descents. There he still is, I am told, with a good stock of provisions, and determined to hold out to the last. It is to be feared he has shown more intrepidity than discretion, for sooner or later he is bound to capitulate."—*Western Morning News.*

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

W. J. Farmer (Yorks).—1. *Examinations for Experts' Certificates.*—The Secretary of the B.B.K.A. (whose address is 12, Hanover-square, London) will supply information as to these. 2. *Standard hives.*—There is no such thing as a "standard" hive. The "standard frame," however, is generally adopted in this country because of the immense advantage of a uniform size of frame for all hives of whatever capacity, 3. *Bee-pasture.*—It is the merest guesswork to say how much land planted with bee-flowers will support one average colony of bees. Besides, no one in this country ever thinks of devoting land exclusively to bee-flowers.

F. V. Hadlow (Sussex).—*Caucasian Bees.*—No doubt our correspondent will have noticed the reference to these bees in the report of B.B.K.A. Conversazione, together with the letter on the subject of Russian apiculture on p. 464.

Geo. M. Saunders (Keswick).—"*Large Orders*" *in Queries.*—We will deal with the remaining queries in your list as occasion offers. But does it not strengthen our contention that you are not sufficiently observant of printed details in your possession when you now complain of *our* "saying (on page 472) that an ordinary tablespoon holds seven drachms instead of six" as stated in your note before us? As a matter of fact, we merely quoted your own words, as written in query, wherein you say:—"I found out that the ordinary spoon holds seven drachms, and a chemist tells me that the majority hold six drachms." Now, however, you say "it should be *four* drachms, and the difference between seven and four is rather far from precise!" We, however, again ask our correspondent—and all who read the "Guide Book"—when making bee-syrup, to just "add two tablespoonfuls of vinegar to every 10 lb. of sugar used," and take no heed whatever to the particular holding capacity of the tablespoon nearest at hand. We will answer for it that no harm will follow. As for "pure methylated spirits" being a nuisance which "caused a smile from your chemist," all we need say is the bottles we purchase are so labelled.

Editorial, Notices, &c.

USEFUL HINTS.

PRICE OF BRITISH HONEY. —This question continues to disturb the minds of some of our readers, and we would gladly see some way of meeting—by argument—the views of all who entertain opposite or conflicting opinions, if that were possible. To one section we might say, What is the good of our trying to popularise the use of honey as an article of household consumption if any attention is to be paid to those who insist on the "good old figure of a shilling a pound" as *the* price a bee-keeper should get for his produce? Our main hope for a more just conception of the needs of the present day—and the absolute necessity for adapting one's self to the progressive times in which we live—lies in the proof positive, to be found in recent issues of this journal, showing that bee-keeping, when properly conducted, is still one of the most profitable of our minor industries; and that—in spite of changed conditions—it now realises larger aggregate returns in cash to individual bee-keepers than any recorded in the days of high prices for honey.

As already said, our pages record solid facts which justify these assertions, and it is encouraging when so many readers are willing to demonstrate, by details of their experience in the past very moderate season, such satisfactory results by way of profit. On the other hand, no one can reasonably take objection to the maintenance of local market-prices so long as consumer and producer are alike content.

To another section we would observe, Where real trouble meets the too enthusiastic upholder of the superiority of British honey over all others—without any reservation whatever—is the failure on his part to use the word *good* before "British" when so describing it. There is no doubt that some districts in this country yield only honey dark brown in colour, and so lacking in—good—flavour as to be quite unsuitable for table use. Yet quite serious complaint is made—by some of those unfortunately located in such districts—if this quality of produce is not allowed to take its place as representative of British honey. On the other hand, a certain section (small, luckily) of bee-keepers regard the necessary care, so strongly insisted on, in putting up honey for market as so much time wasted; and take a sort of pride in the "home-made" appearance presented in a roughly put-up jar of honey, or a soiled and altogether unsavoury-looking section of comb. We have ourselves seen in Covent Garden Market sections of "pure English honey" offered for sale, which *as sections*, were a disgrace to the producer, and which no one who took an honest pride in his "stuff" would offer to a shopkeeper at any price. Cases like these are unmistakable impediments to the well-doing of the home-industry, and in the latter instance are so easily of remedy as to be inexcusable. Moreover, we cannot afford to ignore the extreme care and trouble taken by those who are honestly endeavouring to create a demand for colonial and foreign honey in this country. Touching the former, we have before us a circular—issued by a London firm of produce packers—in which colonial honey is put on the market in the best possible form, so far as get-up and appearance. Its virtues and good qualities are highly extolled in well-printed slips sent to tradesmen who deal in it, while its purity is declared to be "guaranteed by H. M. Government." Yet, with all these accessories and credentials, it is offered at a low price. Surely, then, it is time for our own people to take common care so far as grading their produce and putting it up in decent form for the market, if British honey is to maintain its hold on the public. What we desire to lay stress upon is the fact that carelessness, or worse, on the part of a few often entail consequences very disadvantageous to the many. In fact, there is no getting away from the bad impression created in numerous instances by the action of persons who seem to think that so long as they offer what they know to be unadulterated British honey it *must* be good. There are, thank goodness, among us a large majority, who are not only proud of the fine quality of the honey their bees gather, but who would on no account offer for sale, for table use, any not up to their standard grade; preferring rather to use inferior grades for other purposes, or give it back

to the bees. These are the men who may be relied upon to increase the popularity and sale of our native product. The others work in an exactly opposite direction by affording the opportunity of comparing foreign honeys with our own, to the manifest disadvantage of the latter.

Buying Stocks of Bees.—We have been reminded by a correspondent of the great need for our advising caution when buying bees without guarantee as to their being healthy when purchased. It can hardly have occurred to the writer how invariably we do give this advice whenever our opinion is asked, or an opportunity afforded for offering it arises. Seeing how prevalent foul brood is in a good many districts, and how few—if any—counties are entirely free from the pest, it would be the height of folly to buy stocks without either guarantee or personal examination of the combs. This is a rule that should in no case be departed from.

Price of Stocked Skeps.—As bearing on the value or prices of bees and honey to-day compared with those of over a quarter of a century ago, we have just dropped across a letter received from the late Mr. A. Pettigrew (author of the "Handy Book of Bees") in response to our application for the price at which he could supply us with stocks of bees in skeps.

We had just been reading Mr. Pettigrew's book, and being full of the enthusiasm of our novitiate days, we resolved to try the system advocated. This is his reply:—

My Dear Sir,—The price of our hives (beautifully made skeps) with plenty of honey in them, run from 25s. to 35s. each. Of course—owing to the weather being warm and fair during the last four weeks—they are much lighter than they were, but all have ample stores to keep the bees till April. Now I do not charge by weight, but simply by value. A month ago the price was about 7d. per lb. gross.

To-morrow or next day (as we may have time) I shall send two good ones to Surrey at 33s. each. Six more are going to South America next month.

If you are merely making a commencement in bee-keeping, I would suggest the desirability of beginning with more than one hive, for we have seen, from some accident to the first hive or its queen—not uncommon—lead to bankruptcy and collapse in bee-keeping. This is said not with a view to sell my own hives, but for your sake.—A. Pettigrew, *Rusholme, Manchester, October* 5, 1870.

Prices of Sugar.—The letter of our correspondent, Mr. Hamlyn Harris (2725, page 484), serves to show how easily one may overlook one or other of the many ways in which reduction of prices affect individuals, of whose existence one takes no account when writing. Any way, *our* thoughts were for bee-keepers who are not interested in West Indian sugar plantations, though it is not quite certain that we have ever regarded the question of prices for pure cane-sugar other than being sorry—from the bee-keeper's point of view—when it is dear, and glad when it is cheap. Curiously enough, we had the impression that our gratification—in the latter case—would be shared by those interested in the production of colonial cane-sugar, because of deeming it more advantageous to have a large demand for their product, even at a lower price, than to see it swept off the British market by bounty-fed and cheap beet-sugars, manufactured abroad and imported into this country. In other words, we want to popularise the use of good pure cane-sugar in preference to the inferior and less wholesome beet product, and the lower the *paying* price at which an article can be put upon the market the more largely will the sale be increased.

IRISH BEE-KEEPERS' ASSOCIATION.

The Committee met on 3rd inst. Present: Capt. Millner (in the chair), Dr. Traill, Mr. O'Bryen, and Mr. Chenevix (hon. sec., 15, Morehampton-road, Dublin). Mrs. O'Loghlen, of Lifford, Ennis., was appointed District Hon. Sec. for co. Clare in place of Mr. T. B. O'Bryen, who has resigned the District Secretaryship for that county.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

BEES "BALLING" QUEENS.

[2726.] I have been much troubled during the last two seasons by bees "balling" their queens. Has this matter ever been fully dealt with in your columns?

I know that "balling" is usually accounted to rough handling, or disturbing hives at improper seasons, &c., but as none of these causes apply in the following cases, I shall be glad of your opinion and advice, or that of your correspondents, should you consider the matter of general interest. About a month ago, on taking an evening walk round the apiary, I noticed a good deal of excitement at the entrance of one of the hives. On going closer, I could easily detect the peculiar "hissing" sound denoting queen "balled."

It was too late then to do anything, but next morning I opened the hive, and sure enough found the queen still encased in one corner of the hive. On releasing her I found she was not much damaged (to outward appearance), and gave her to another colony, uniting her bees to the next stock.

In the second case, on going to the apiary to set some new hives in position on Saturday afternoon last—all other stocks being quiet—I noticed unmistakable signs of recent loss of queen about the entrance of a strong colony. As the excitement was continued on the following day I then opened the hive, but could find no trace of a queen; in fact, the behaviour of the bees plainly denoted queenlessness. Now as both these queens were of the present year, and the stocks strong, what can have been the cause? The second stock in question having been covered down for winter last month in splendid condition.

In my novitiate days, when, in common with (as I suppose) most novices, I used to open hives at nearly all seasons, and did not then know what it was to have a queen "balled." Now, however, my bees seem to have developed a habit of killing queens, as during the last two seasons I have had several otherwise good stocks come out queenless in the spring without apparent cause.—A. R., *Pewsham, Wilts, November* 23.

[We will refer to this subject in an early issue.—EDS.]

BEE-NOTES FROM SUSSEX.

[2727.] I have at last found time to make up accounts, and, as far as I can now ascertain, the following is my return for the past season. The figures relating to the sections are accurate; those relating to the extracted honey are mostly estimates, as I got "mixed" during the straining, which was a very tedious and difficult business this year, owing to the thickness of the honey. The gross totals at foot are, however, quite correct, as I have checked them by the quantities sold and on hand.

One stock (No. 2) became queenless early in the season, and died out. Towards the close, one of the stocks in the "Wells" hive amalgamated with the other. Upon my removing the united colony to a fresh hive for cleaning-up purposes, apparently the queen was injured or "balled," for *that* stock has now greatly diminished. I have filled up the blanks with driven bees, as being cheaper and less troublesome than queen introduction, and a little benefit to my cottage neighbours.

The returns from hives as enumerated are as follows:—

		Total.
1.	78 1-lb. sections, 2 lb. extracted honey	80
2.	10 lb. „ „	10
3.	51 lb. „ „	51
4.	10 lb. „ „	10
5.	33 1-lb. sections, 1 lb. „ „	34
6.	50 lb. „ „	50
7.	17 1-lb. sections, 2 lb. „ „	19
8.	113 „ „ 9 lb. „ „	122
9 and 10.	("Wells" hive)..... 80 lb. „ „	80
	Total.....	456

All stocks are black bees except No. 6, which are hybrid Ligurians. The gross totals are 241 sections and 215 lb. extracted honey, or an average all round of 46 lb. per stock.

In considering results I ought to say that in the spring I put sections on the strongest stocks, which accounts for the poor returns from some of the hives worked for extracted honey. Nos. 6 and 8 I divided, I believe successfully, in August; and all these ten hives, together with the restocked "Wells," are doing well.

Most of the honey came from early fruit and May-blossom, yellow clover, and other spring blooms, up to middle of July. The white clover was an utter failure, and I have had to feed up rather heavily.

The recent long-continued rains weakened some of the stocks frightfully, added to which fighting has been going on freely at one or two hive doors, strangers from a distance apparently trying to gain an entrance, no doubt impelled by famine. They are smaller than any of my bees, and get the worst of it, poor things! The strangers must, however, have been successful in effecting an entry in at least one case, for the stock in question is not only doubled in numbers, but the hive is now full to overflowing, and the bees have cleared out a 2-lb. box of candy in less than a fortnight, although otherwise well provided. I cannot believe they can have successfully reared brood through the recent spell of severe cold, and can only account for their sudden increase in this way, as in a similar instance last year.

What the effect of the recent rigorous weather may be I hardly like to anticipate, but am afraid I shall lose one or two additional weak stocks I have been trying to nurse up.

In conclusion, but for the long-continued drought, 1896 would have been a splendid honey year. As it is, it has been only mediocre, but the quality of the honey hereabouts has been superb.

It may encourage cottage bee-keepers to know that I sold the bulk of the sections at

8d., some at 10d., and a few 1-lb. sections at 1s. They also took me a first prize at a show, and I have given many away.

I have likewise sold all the extracted honey I wished at 10d. per lb., after gaining two second prizes for this. I have reserved some ½ cwt. for show next year, and have also given much away.

In spite of this, the money return is upwards of £12. I do not give a debtor and creditor account, because I have gone in for many luxuries this year, such as expensive glazed cases for standard and shallow frames, &c., and the statement could answer no useful purpose.

I sell all my honey to one buyer, a chemist in a large town, who says he is delighted to have it, and dispose of it himself to his customers, or to other chemists, because the quality is so fine, and he is sure of its purity, and is relieved of any anxiety about adulteration and consequent troubles.

In addition, without going into wearisome details, my fourteen stocks are all supplied with ten well-filled standard frames of comb (I never extract from brood-combs); and I have a fine reserve stock of built-out sections and shallow combs for next year's harvest, besides about 5 lb. of good wax. Hence I, for one, am well satisfied with the bee bill for 1896.—W. R. N., *Sussex.*

CHILIAN HONEY.

[2728.] I notice in yesterday's *Bazaar* about 1¼ cwt. of pure Chilian honey is advertised at a trifle over 3d. a lb., and cannot refrain from asking (1) How can this, if pure, be produced at the price? (2) what sort of stuff is this honey supposed to be? The *Apis Mellifica*, I suppose, inhabits the Chilian Republic, but owing to only a small portion of the country being fertile, coupled with the intense cold and terrific storms prevalent, bees could hardly be expected to flourish to a great extent.

A few of the fourteen volcanic peaks are still in activity, and only during the present century has volcanic agency attested its power by frequent and occasionally tremendous earthquakes, altering the relations of the land and the ocean by permanently elevating a large extent of the maritime region several feet above its former level. This state of things would, I fear, be anything but favourable to bee-keeping. Can any reader say if the *Apis Meliponae* and *Trigonal* are still to be found there?

I should very much like to have a little more information as to bees and the bee flora of this western state of South America.—R. HAMLYN-HARRIS, *The Conifers, Hambrook, near Bristol, December* 5.

[Without being conversant with the bee flora of South America, we know that large importations of honey reach this country from Brazil, Chili, Peru, and other states in that part of the world. As a matter of fact, we have personally inspected barrels of granulated honey from the places mentioned, just as imported into Liverpool. South American honey is regularly consigned to produce brokers in that city, and there sold either by public auction or privately by sample at very low prices indeed.

The fact of dead bees being pretty numerous in the honey we have seen, makes it certain that it comes, not from apiaries where frame-hives are kept, but from bee-trees found in the woods, and inhabited by wild bees of the *Apis Mellifica* genus.—EDS.]

BEST MATERIAL FOR HIVES.

[2729.] Pine, in the ordinary or commercial sense, means American pine, and is distinct from pitch pine, white deal (spruce fir), and yellow deal (Scotch fir). Hives are seldom made of pitch pine or of white deal, but pine and yellow deal are both used for that purpose. Pine is more expensive than yellow deal, and is superior to it as a timber in many respects. Yellow deal, however, being more resinous than pine is better fitted to stand exposure to weather, and in other respects it is well suited for making hives. It is, however, often asserted that bees dislike the resinous smell of yellow deal, and that, therefore, pine and not yellow deal should be used for hive making. Can any of your readers say if there is any evidence to support the above assertion? The fact that bees are never tired of collecting resinous matter from fir trees, and daubing it over the interior of their hive, seems to tell the other way. Moreover, the instances are not rare in which bees, being put in possession of hives made of yellow deal, have taken to them with every appearance of contentment. The question is one of practical interest for the poorer and more numerous class of bee-keepers to whom every sixpence is of importance, for yellow deal is certainly cheaper, and more durable than pine, when exposed to weather, as bee-hives are. If the notion that bees dislike the smell of yellow deal is as fanciful as the idea that they take delight in the clatter of pots and pans, it is doing a service to bee-keepers to dispel the delusion.—APIARIUS, *Oxford, December* 5.

FREE SEEDS OF BEE PLANTS.

[2730.] My offer of free seeds of melilotus and Chapman honey-plant (on page 455) has brought me a large number of applications for a supply. I had, however, enough on hand to fill all "orders," but in reading the letters it has struck me that many of the writers must have only recently become readers of the B.J. I say this because of the many who ask for particulars as to cultivation, height, colour, suitable soil, time of flowering, whether

biennials, and many other questions far more than I have time to reply to.

In consequence of this, I have written a good many to say that I would ask you to reprint what has appeared in your pages on the Chapman honey plant, adding that the same treatment will apply to the melilotus.

To grow good plants of the former, fresh seed should be sown every year, and by good cultivation they will reach as high as 10 or 11 ft, the melilotus attaining about 6 to 8 ft. —GEO. WELLS, *Aylesford, Kent, November* 20.

[Since full particulars of the Chapman honey plant (*Echinops sphærocephalus*), with illustration, appears in B.J. of April 11, 1895, and may be had for three-halfpence in stamps, it hardly seems necessary to reproduce the article.—EDS.]

A MAY MORNING.

[2731.] It is delightful on a May morning, after many months of city life, to break the ink-bottles and kick over the office stool (!) with schoolboy gusto, and hasten down to those blessings of this life, a railway train, which, with much bluster, soon lands one out of bricks and smoke and cat-scratched gardens, past fields of daffodils grown for market, past snug homesteads and happy cows, by meadows now knee-deep with grass and flowers innumerable, meadows that have drowned their footpaths, meadows that are now high above you and now low beneath you. Meadows that in Quixotic fashion you take a "header" under, and come up to find lady-ferns looking at you from ledges of brown sandstone, meadows with movable hedges that swing and shift from side to side! Past fields of corn, of barley, of oats, of beans, of red clover, and rye grass; by coppices and woods which are blue with the blue of a million bluebells, by winding streams and pale-green painted pools, which we know is duckweed, amongst which dive coot and moorhen. By Worcestershire orchards, whose trees bend beneath their weight of flowers, by straw bee-hives with bulging sides in a cottage garden, and now the Malvern Hills and hop-yards, in which the bine begins to mount the poles. By the Avon's placid stream and Breedon's mounds (not high enough for hills), till we cross the border and dash into rich Gloucestershire, and now appears the long range of the Cotswolds; and now our hearts beat a little faster, for this is the land of promise—one of those many spots where we have made up our minds to retire to when we grow rich—one of those spots where the sun seems always to thread its way safely through the maze of clouds, where the buoyant air comes straight from the sea, and where the light is never obscured by smoke, or fog, or dust. We change at Stonehouse, and in a few minutes arrive at Stroud (our journey's end), where lives your correspondent, "A Disappointed Cottager." He is disappointed because his honey does not sell freely. In other words, bee-keeping does not roll in the £. s. and d's. But, my friend, think what you have to compensate you in other ways. Here it is only the 25th of May, and yet I found white clover out in blossom. And it was worth coming all these hundred miles to see your honeysuckle and your roses, and the double dame's violet before your cottage doors. Your pleasant sun and pure atmosphere had filled all your vales and covered your hills with flowers a full fortnight before our land more northward had become warmed. I had to drag my friend past your cottage doors. He would suddenly stop and ejaculate, "Great Scot! Do look at those peas, ready to pick!" or, "I say, old fellow, you *must* have a look at these potatoes and scarlet runners." And then a huge clump of pæonies, glowing over an old stone wall (the very stones were like salve to our red brick-blinded eyes) would act upon him the same as a red light to a train. He came to a full stop, and, resting his elbows on the wall and his face in his hands, he said, "Well, that takes the cake. I've made up my mind now that when I get back I'll dig up and burn all my plants, and only grow cabbages!" And so, by slow degrees, breaking the tenth commandment at every step, we reach the hills—the hills whose massive forms have overlooked the rich Severn valley, with Abergavenny's dome beyond, since the Romans came—and how many centuries before that? From about 500 ft. to 1,000 ft. in height, these hundred hills do not draw down the clouds. Nor have they any leaping torrents or raven's crags. Old Father Time has smoothed all their wrinkles long ago. To their very tops. and all along their sides, Dame Nature has dressed them in a coat of green—not so much of grass, but dwarf herbs of all kinds: the sun cistus, the burnet, the wild thyme, the lady's-finger, the horse-shoe vetch, the purple milk-vetch, the harebell, orchids of various kind, and here and there a tuft of sweetbriar or a shrub of colon-easter, or dotted about the dense turf, the pasque-flower (now in seed) and even tiny plants of cowslips. Perhaps the most abundant plant of all was the stemless thistle, which blossoms in July—one single flower without a stem in a rosette of leaves. This purples all the hill-side, and it would be interesting to know whether it is of much value as a honey plant. As we ascended breathlessly the slope, common blue butterflies, alike indifferent whether they went up or down, so easy did their wings fit the warm May breezes, abounded on every side, while garden whites, on the look out for cabbages, and dingy and nut-brown skippers, and swift tortoise-shells flew before us, to show the splendour of their dress. After a few miles—breathing all the time an atmosphere that must have astonished our lungs—we crossed a high road, and entered

a blazing field of sainfoin, which was literally a roaring swarm of bees and wasps and flies, and even great day-flying moths, like the wood tiger! What a delicious sight for a bee-keeper is a field of sainfoin. Why, it is worth going from John-o'-Groats to Land's End to see! Happy ought the bee-keeper to be whose workers are toiling for him there. Happy are the bees who buzz from one crimson floret to another.

Our way now lay towards the southern side, where lies a deep basin or depression in the hill—a great vase which Nature has formed to fill with flowers. This was our paradise, the place we had dreamt of and longed for, and still remember and hope to visit again and again. A great vase which is burnished all along its mighty sides with a million golden flowers of sun cistus, of horse-shoe vetch, and lotus, and painted crimson with wild thyme, into which no harsh winds can ever enter, because the hills behind it keep them out and hold them away at arm's length, and the sun pours down his lustrous light and life-giving heat until the whole vase moves with life—the life of gay companies of butterflies, of a whole starry heaven of hawkweed flowers (which, like the stars, borrow their light from the sun), above all, the life of happy hive bees, bees of all kinds, not forgetting our old friend the humble dumbledore!

Around on every side for many a mile lay hill behind hill, and dale beyond dale, and winding streams, and vast beech woods, stretching almost from Dursley to Stroud, and in the plain of Gloucester below many a rich meadow—great bouquets of flowers. Yet my little vase, set upon the table of the hill, was dearer than them all. It was as a rose gathered, compared to one out of reach upon the high wall, or as a hive of bees is better than a whole hillside of labourers. Insect villages there were in plenty dotted about that fair expanse, but this was the metropolis, where, on a May morning, all the brave, and noble, and beautiful in the insect world met. Kings richly dressed, such as *Vanessa Io*, or royal princesses, like *Lycæna Adonis*, or gay red admirals and painted ladies.

So much beauty everywhere! The soft, hair-fringed foliage of the beech trees, the creamy flowers of helleborine that blossomed in great breadths beneath them, the spires of butterfly orchis, or of that rarity, the birds'-nest orchis, forty Adonis butterflies with their dazzling blue wings expanded on one foot of moist turf; the iridescent wings of the rock-rose forester (a moth); butterflies, such as the whites, the green hairs-streak, the brown argus, the pearl-bordered fritillaries, and many more; yellow moths flying among the thin underwood; great mullein rosettes, with the beautiful caterpillar of the mullein moth feeding on the woolley leaves; here a great carpet of wood-sanicle or ramsons or sweet-scented wood-ruff; there, bushes of the laurel spurge and quaint butcher's broom. And now a curiosity: an albino specimen of a young beech, every leaf pure white. And now a peep through a rift in the foliage—a peep into the deep vale below, with its great cloth-mills, built over the winding stream which turns their wheels; a peep at the Severn's broad stream and the hills of Wales away in the distant blue, and at every turn a new, and, as it seems to me, a more beautiful picture of the great body of the Wolds, now curving up steeply, and hiding half the world, and then, on turning a bend, the world again in view, save for a slice cut off by the outline of the wolds, many miles away—outlines which are ever changing but always beautiful. So much of beauty, indeed, everywhere, that one would imagine the clustered cottages held no soul who *could* be discontent, or otherwise than happy! No one living the quiet life therein who would rather ride than walk. No one thirsting for a villa residence, servants, electric-bells, and an autocar! All teetotalers, therefore happiness and peace and sweet content!

Discontent and the thirst for wealth is the ruin of half our lives. Happier is the cottager in his cot on the Cotswolds than the Mayor of Mudborough in his manorial hall!—LORDSWOOD.

WEATHER REPORT.

WESTBOURNE, SUSSEX, NOVEMBER, 1896.

Rainfall, 1·00 in.	Sunless Days, 8.
Heaviest fall, ·29 on 7th.	Above Average, 37·4 hours.
Rain fell on 9 days.	Mean Maximum, 42·9°.
Below average, 2·62 in.	Mean Minimum, 32·9°.
Maximum Temperature, 48° on 12th.	Mean Temperature, 37·9°.
Minimum Temperature, 24° on 7th.	Below average, 4·9°.
Minimum on Grass, 16° on 7th.	Maximum Barometer, 30·66° on 24th.
Frosty Nights, 15.	Minimum Barometer, 29·3° on 15th.
Sunshine, 97·1 hours.	
Brightest Day, 5th, 7·6 hours.	

L. B. BIRKETT.

Queries and Replies.

[1609.] *Measuring "Spoonfuls."*—Referring to your reply on page 490 of last week's B.J., I do not seem to have expressed myself well. What I would say is this: An ordinary tablespoon holds from six to seven drachms (mine hold seven exactly), whereas a medicinal one holds four, so that mine are nearly twice too large (75 per cent., to be exact). I note that this is immaterial for vinegar, but how about giving a double dose of naphthol beta solu-

tion? In the "Directions for Use" sent out from your office by you, it is stated that one ounce equals two tablespoonfuls; but if by chance (which is possible to happen) one got an 8-oz. bottle, *not* marked in divisions, and instead relied on an ordinary tablespoon for a measure, the bees would get a double dose.—GEORGE M. SAUNDERS, *Keswick, December* 5.

REPLY.—The above forcibly recalls the fable of "The Man and the Ass." In earlier editions of the "Guide Book" the quantities for recipes were given in ounces, it being supposed that the *liquid oz.* would be taken for granted and so understood. But that did please some readers, and so, in order to meet the views of all sorts and conditions of men, the latest edition was supplied with what we supposed would be a simple way of overcoming all possible difficulties which no one could misunderstand. A marked bottle—such as is already at hand in nearly every household, or can be had at any chemist's for a penny—was adopted, each division representing a certain weight or, to be still more complete, a certain measurement in tablespoonfuls. In consequence of similar divergence of views, the same course was followed in the "Directions for Use" in the case of measuring naphthol beta. Now, however, our correspondent raises the question of "tablespoon" capacity! We cannot reply better to his query than by asking another, viz.:—How is it that in medical prescriptions the term "tablespoon" is so invariably used, when no tablespoon in ordinary household use is of anything like the capacity of what he terms a "medicinal" spoon?

[1610.] *Removing Queen from her Escort.*—1. How do you remove a queen from the escort which accompanies her in the travelling case when carrying out the method of "Direct Introduction?" I read that the "queen must be kept alone for half-an-hour." I had a lively escort with one queen and found it so awkward to catch her that I just put the lot over the frames with no ill result. 2. Should I have smoked the accompanying bees to prevent them from stinging the ungloved hand? 3. *Queen Stings.*—If a queen stings the manipulator does she die? She seems to be able to sting rival queens without damage to herself.—GEO. M. SAUNDERS, *Keswick.*

REPLY.—1. Our correspondent asks how *we* remove a queen from her escort? Well, we just vary our method according to the circumstances of the case at the time, so that without any set plan we never have any difficulty. It is easier, however, to say how we think those less inexperienced should act. For instance, in the case of the "lively escort" described above, the operator would do well to get *inside* a room, and face the closed window thereof; then so open the cage as to allow the escort to escape one by one till only the queen remained. As to "catching the queen," what more easy than to allow her to fly from the cage if lively—or walk out of it if quiet—on to the window-frame and then gently take hold of her by the wings or the thorax? Any one ought to be able to do this who attempts queen introduction. 2. No; smoking at such a time is undesirable. 3. Though queens have been known to sting while being handled it may be said that practically they never sting the operator, the exception only serving to prove the rule.

[1611.] *Moving an Apiary.*—I want to move my bees a distance of about a quarter of a mile away. About what time during the winter or early spring would you advise me to do this? 2. *Hives on Continuous Stands.*—I am putting my hives in an orchard; is there any great objection to placing them in rows on long stands? They would to me be so much more easily manipulated than each on its own stand. 3. I enclose a sample of honey received from an advertiser in the B. J., hailing from the Eastern Counties; he describes it as first grade sainfoin honey. Can this be so? *I* have never had any honey anything like this flavour, and I reckon quite 75 per cent. of what I produce is sainfoin.—H. A. O. TRIMBLY, *Isle of Thanet, December* 5.

REPLY.—If advantage is taken of a fairly long spell of cold (say three weeks or so) during which the bees have not flown, the hives may be moved any time from December to February. 2. The only objection to continuous stands is the more or less "jarring" of all stocks placed thereon every time a hive is disturbed by manipulating. We do not know, however, that the objection is a very serious one. Curiously enough, we take an entirely opposite view to our correspondent, so far as manipulation. "Each hive on its own stand" is our idea for comfort and ease in handling. 3. Honey received is very good, and has sainfoin in it, though we cannot agree as to its being so entirely from that plant as to warrant being called "first grade sainfoin."

[1612.] *The "W. B. C." Hive.*—Can you kindly refer me to any source where is to be found a detailed and accurate description of the "W. B. C." hive as at present approved by its inventor?—AGRICOLA, *Oxford.*

REPLY.—Particulars referred to are given in B.J. of February 1 and 8, 1894.

DEATH OF A CUMBERLAND NATURALIST.

HUMBLE BEES AND RED CLOVER.

"The death has been announced of old Mr. Duckworth, of Blackwell. Though he has been excelled in breadth and accuracy of attainments by his sons, one of whom was collaborator with Mr. Macpherson in a book on native birds, his knowledge of the Cumbrian flora and fauna was perfect within a limited range, and his assistance was sought by distinguished naturalists, of whom we may

mention Sir John Lubbock. Sir John's specialty—if one who takes all knowledge for his province can be said to have a specialty—is bees. But he could not get a humble bee in the hybernating state. He was therefore advised to communicate with Mr. Duckworth, who from time to time sent him specimens. The humble bee, by the way, plays a conspicuous part in the philosophy of evolution by natural selection. It is found that red clover and wild heart's-ease grow best in the immediate neighbourhood of towns. How is this? These plants are fertilised by humble bees, of whose larvæ and eggs field mice are very fond. Therefore, wherever there are plenty of field mice, as in the open country, humble bees are kept down. But in the neighbourhood of towns the number of cats which prowl about the fields prey upon the mice, and, of course, the more mice they destroy the fewer there are to ravage the combs. Hence cats are protectors of the bees, and the increase of the latter is favourable to the growth of red clover and wild heart's-ease! Mr. Huxley, in a lightsome mood, carried the process a step further, by saying that we owe our crops of red clover to old maids, whose fondness for cats is proverbial! Here we have one among a thousand complex conditions which control animal and vegetable life."

The above is from the *Carlisle Patriot* of this date. It turns our thoughts in a new direction and enlarges our minds.—A Contented Bee-Keeper, *December* 4, 1896.

BEES IN LONDON GARDENS.

The owner of a suburban garden—a very suburban garden indeed—has noted that as soon as his Michaelmas daisies come into bloom, as they do at this season, they are besieged by honey bees. He never sees the insects at any other time, and naturally wants to know where they come from, and how they find out that the Michaelmas daisies are ready for them. Other observers have asked the same question, in one form or another. If you plant sunflowers, you are sure to find them, as soon as the flowers are open, surrounded, not with honey bees, but by their less distinguished cousins, the humble bees. And yet before the sunflowers were planted nobody had ever seen a humble bee in the garden. It has been asserted by writers on bees—and there have been many from Aristotle, Virgil, and Pliny downwards—that the insect never flies far from home. Whence, then, come the specimens which, in given conditions, always appear in our town gardens? The natural answer would seem to be that they have nests within a short distance, though nobody ever discovers them. But the honey-bee, though there are wild varieties of it, does not usually dwell at large in the immediate neighbourhood of great towns. Probably, therefore, the individual insects which make for the Michaelmas daisy or other favoured flowers really come from a neighbouring hive, though its existence may be unknown to the owner of the garden. For a good many people in suburban London really do keep bees, or try to do so, and the industrious insects do not confine themselves to their master's domain when in search of honey.—The *Globe*, October 8.

THE ECONOMIC VALUE OF BEES AND THEIR PRODUCTS.

The discussion of the above subject may be made to embrace such an immense scope that it would be useless to try to point out more than a few of the leading questions involved in it. Being adverse to long essays myself—knowing, also, by past experience, that essays, in a meeting like this, are only needed to introduce the subject, I will make my remarks very short.

In the consideration of this question, I would prefer to have had the bees left out by the committee who ascribed this subject to me, for I confess that I cannot see any actual direct economic value in the bees themselves, but only indirectly, through their products of honey and beeswax, and, still more indirectly, through their action as pollen-carriers, upon the bloom of our domestic trees, plants, and shrubs, to help fertilisation, and thereby increase the yield of our farms, orchards, and gardens. The discussion of this, it seems to me, should come under a different head.

The economic use of honey, and its demand as an article of daily use in the household, have greatly lessened since sugar has been produced cheaply, and has become a part of the regular diet of every family. Honey, centuries ago, used to be the only sweet that was produced in abundance, and it filled many a purpose which is now fulfilled much more plentifully by sugar. To-day honey should take the second place in price as well as in equality of demand and consumption, were it not for its superiority in flavour. But although it takes but a comparatively small place in the enormous consumption of sweets, it is still the leader in price, for it is far above the other sweets as an unprepared or raw article of diet, manipulated only by the skill of Nature's chemistry. Evidently the choice article, the high-grade honey, will always keep its price far above that of all manufactured sweets.

But Nature's laboratory does not confine itself to one grade, and we have much honey which must needs compete on a level with the sweets of commerce, and it is for the sale of these grades that the bee-keeper is most in need of creating an increase of demand. In other words, it is most important for us to increase the economic value of the lowest grades of honey by finding new channels for them, creating new uses.

In tobacco manufacturing, in candy-making,

in the medicinal and veterinary uses, in baking, in brewing, in wine and vinegar making, new markets have been opened, but we need still more uses for the product ; for if we can find a ready sale for the cheapest grades of honey harvested in the apiary, the high grades will no longer drag on our markets. It is on this part of the economy of the apiary that more suggestions are needed.

In the Bulletin of the Society of "La Somme," which I received from France yesterday, I saw an article which has a bearing upon the question. A new use for honey has been discovered by a Mr. Poulet, who has succeeded in employing it in the manufacture of chocolate, obtaining a most savoury article of this substance by the use of honey with the cocoa. The advantage of this discovery, it is claimed, lies in being able to produce a better article at lower prices than the chocolate now manufactured. This discovery seems to have created quite a sensation in the above-mentioned association, and a committee was appointed to investigate the matter, in view of taking steps to establish a chocolate factory.

Is it necessary for us to mention the economic uses of beeswax? This article has so long been needed for so many different purposes in the arts as well as in medicine, in housekeeping and in manufacturing, its peculiar properties are so unique, and its needs so well established, that all the cheap products that have been brought forward have been unable, in spite of adulteration and deception, to affect its price or the demand for it in its pure state. Beeswax never goes a-begging, and even if the prices fluctuate according to the greater or less production, it always commands as ready a sale at or about market quotations as the most staple products of the world.

Our attention is therefore most emphatically needed in the direction of the economic value of honey, and no pains should be spared by the bee-keepers to find new channels for the use of it.—C. P. DADANT, *in American Bee Journal.*

SECURING AND MANAGING SWARMS.

(*Concluded from page* 490.)

How best to minimise the disadvantages of swarming which give rise to the other objections I have mentioned is a somewhat more difficult matter. The absconding of prime swarms can be almost certainly prevented by having had the wings of the queens previously clipped, which is most conveniently done about the first day of May preceding; but, though I have hitherto been strongly in favour of it, and would take it as a choice of evils in the absence of the queen-trap, I find it liable in an apiary of any considerable extent, where there is little danger of swarms clustering out of convenient reach, to one valid objection, and that is, that swarms usually remain a tantalisingly long time in the air, giving an unnecessarily pressing invitation to other swarms, and perhaps virgin queens, to join them, thus complicating the matter of successful hiving. In small apiaries this objection would not have the same validity, but in any case there is first the danger of the loss of valuable queens, and then, in nine or ten days, in the absence of the apiarist, the loss of powerful swarms with virgin queens, so I now consider the queen-trap indispensable unless one is willing to watch his bees continually during the swarming season, and even then it is a great convenience.

For this purpose, the trap should be so made that the queen once in it cannot return to the hive. This enables the apiarist to determine, with the exercise of a very little attention, whether a swarm has issued during his absence from any given hive or not, by the conduct of the bees and the greater or less cluster remaining with the queen in the trap. If a swarm has issued and returned, usually the trap is found full of bees, or nearly so ; in such case I return the queen and bees to the hive and readjust the trap with the expectation that in a day or two I shall discover them making their next attempt, or, if I had no such expectation, I would shake out enough bees to make a good swarm, and hive them with the queen in the ordinary way.

A trap full of bees at the entrance of the hive from which the prime swarm—or at least the old queen—has been taken, indicates that the young queen has attempted to issue ; if the trap has but few bees, it shows that the young queen has attempted to take her mating flight, or perhaps, sometimes, that she has got into the trap in endeavouring to escape from a rival. In either case, swarming is over, and the trap should be removed and the queen returned, unless it is certain the colony still has one.

It is best, then, I think, to keep traps on all colonies likely to swarm, removing them as soon as the danger is over, being particularly careful on this point in the case of those having virgin queens. When a swarm is discovered issuing, remove the trap, thus allowing the queen to go with the swarm, which induces speedy and perfect clustering, when it may be secured in a moment in a basket.

A light pole, to which a basket is attached near the farther end, serves both to shake out and secure most swarms that cluster out of the reach of the hand.

For the highest success in the production of comb honey, strong swarms are desirable, and hiving swarms on the old stand not only conduces to their strength, but has also a strong tendency, often almost prohibitive, to prevent after-swarms. However, with the methods I use, there is a limit to the profitable strength of swarms. If they exceed seven or eight pounds in weight, there is apt to be discontent and an early preparation to swarm again, even if they do not persist in attempting to abscond.

This determination to abscond is a difficulty which I have had to encounter very frequently during swarming seasons, owing principally, no doubt, to the small size of the brood-chamber which I feel compelled to give swarms. After testing different plans, I have at last been almost entirely successful in meeting this difficulty by giving the swarm at first a double brood-chamber and removing the lower section in two days. This plan has proved a decided relief in the management of swarms.

Little need be said in addition to meet the objection made against swarming on account of time required for attending to it. Most prime swarms issue between nine o'clock a.m. and twelve o'clock, so that with the traps three hours a day answers very well. In case of necessity, even less time may be made to serve without serious loss, even to so little as three hours every third day. It is possible that there may be a little danger of swarms going away with virgin queens on their mating flight, but it is not great, for such queens are distasteful to prime swarms, though any laying queen is acceptable.

If a prime swarm and an after swarm with their queen unite, the young queen will usually be found "balled," and it is seldom worth while to separate them because there will almost certainly be sufficient of the prime swarm with the young queen to destroy her or break up the colony.

Some complaint is made that queens escape through the perforated zinc of the queen-trap. The perforation in my traps are 5-32 of an inch, and no queens escape.—Hon. R. L. TAYLOR, in *Bee-keepers' Review.*

HONEY IMPORTS.

The total value of honey imported into the United Kingdom during the month of November, 1896, was £1,109.—*From a return furnished to the* BRITISH BEE JOURNAL *by the Statistical Office, H.M. Customs.*

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column

A. H. (North Bucks).—Whenever our correspondents' communications possess matter of either use or interest to readers we will be very pleased to publish it. But, so far as the two last letters received, they possess neither. It must also be understood that personalities of any kind are not admitted in our columns. Moreover, we object to such phrases as "come on, Lordswood," "keep your hair on," &c., and only mention them now in order to make it clear that if such not very elegant expressions are allowed in the journals to whose pages "A. H." contributes, they are entirely unsuitable for the BRITISH BEE JOURNAL.

D. JANSON (Chigwell).—*Bass-wood Honey.*—What is called by this name in America comes from the lime tree, enormous crops of honey being got from this source in the States. The botanical name of the American lime or bass-wood is *Tilia Americana.* White clover is esteemed as the queen of bee-flowers in this country, and it is not too much to say that it is so regarded in every country where it grows, the world over. Sainfoin yields a delicious honey, which, when blended with that from white clover, adds greatly to the flavour of the latter, and forms, to our mind, the best British honey obtainable. Raspberry bloom also yields honey of very fine quality; while in some seasons a capital crop of good honey is got from *our* lime, the *Tilia Europœa* (*var. intermedia*). 2. *Planting for Bees.*—It will never pay to plant especially for bees in this country. Those who make bee-keeping most profitable locate their apiaries where the natural forage of the district furnishes a full supply without either labour or expeuse on the part of the bee-keeper.

G. OBY (Littlehampton). — *Dealing with Frames of Thick Unsealed Honey.*—If the combs can be kept in a very warm, dry cupboard the unsealed honey may remain liquid till they could be given to the bees as spring food. Otherwise the honey will granulate in the cells and thus become unfit for anything but breaking up. We should return them to the bees for present use, because of the tendency to granulation in all honey gathered this season.

COTTAGER (Manchester).—Honey sent is too cloudy and dark in colour to command a good price in the open market; and you have much reason for congratulation if able to sell it easily at 1s. per lb. The honey is very fair in flavour and consistency, but the colour is like that of honey dew.

BEE-SOM (Shrewsbury).—Communication received is unsuitable for publication in our columns.

J. D. ARMITAGE (Mackay, Queensland).—From our inquiries made here, we have no doubt you will have received the goods, with satisfactory explanation of the delay, before these lines reach your far-off home.

Editorial, Notices, &c.

THE "ROYAL" SHOW OF 1897.

At the risk of being considered somewhat premature in now drawing attention to an event arranged to take place some six months hence, we invite the earnest consideration and co-operation of our readers in connection with the Show of the Royal Agricultural Society, which will be held at Manchester in June next. The occasion is of such unmistakable importance—so far as its probable influence in furthering the bee-industry of this country — that we gladly take advantage of the first opportunity for giving publicity to such particulars as are now available regarding the Manchester meeting. We have just been favoured with an advance copy of the prize schedule for the bee-department of the exhibition referred to, and it contains features of exceptional interest to all county bee associations and the members thereof throughout the kingdom. In the first place, it is incumbent on us as bee-keepers to evince in no half-hearted fashion our sense of the liberal encouragement shown by the Local Committee of the Manchester Show in placing the sum of fifty pounds at the disposal of the British Bee-Keepers' Association for the purpose of augmenting the ordinary prizes offered by that body at the above-named show for the advancement of the bee industry.

The bulk of the sum named goes to the Special County Honey-Trophy Class, the prizes in which are open to be competed for by all counties in the United Kingdom. But the sum of £15 is available for increasing the ordinary prizes contained in the schedule and for creating several additional classes. The chief event is, of course, the Trophy competition, in which the following prizes are offered :—

1st prize, £15 and silver medal.
2nd prize, £10 and bronze medal.
3rd prize, £5 ,, ,,
4th prize, £3 ,, ,,
5th prize, £2 ,, ,,

In each case the medals will have an inscription, commemorative of the event, engraved thereon.

The new classes include prizes for dark honey ; heather honey, in comb and extracted ; beeswax ; honey vinegar and mead. The schedule contains in all sixty substantial money prizes and five medals, the total being about £80, full particulars of which will appear in our advertising pages at an early date.

Next year's show bids fair to be a memorable one in the annals of the "Royal," and, as we have already said, it remains for bee-keepers to promptly take such initiatory measures as will ensure the success of their own particular section of the exhibition. To this end, we need hardly say, the county competition will play by far the most important part, not only in the show under notice, but as an encouraging precedent for future local committees to imitate the example of Manchester and perhaps give to the county-trophy class a permanent place in the schedule.

Our present concern, however, is for the show of next June, and regarding this it is imperative that no time be lost. We therefore urge active and energetic county secretaries (who, happily, are not scarce) to be up and doing. We have ourselves been "poking over" back volumes of the B.J. in order to gather something in the shape of precedents afforded by events in years gone by, and in the only case analogous to the one before us we find the advantages all on the side of competitors in the present day. The case to which we refer is the memorable county competition which took place ten years ago during the Colonial Exhibition held at South Kensington. This competition constituted the chief item of a very fine show held under the auspices of the B.B.K.A., in which was included a Trophy class for county associations. Eleven counties staged exhibits, each of which had to occupy 6 ft. square of table space, height of trophy 6 ft., while the weight of honey was unlimited. The total sum to be competed for was divided into four prizes of £8, £6, £4, and £3, respectively ; so that, compared with the schedule of the Manchester meeting now before us, the advantage—so far as ease in preparing a much smaller exhibit—is immensely in favour of those competing in '97. The table space in the latter case is limited to 4 ft. 6 in. square, and the height to 5 ft., while the weight of honey must approximate 300 lb. Not only is

this so, but—contrary to the conditions of 1886, where only the current season's produce was allowed—honey of any year is eligible; and such honey products as wax, mead, and vinegar may be added to enhance the general effect of the display. Add to all this the largely-increased value of the prizes offered for a much smaller display, we should see the number of entries more than doubled, and a display of British honey ensured such as will give a permanent lift onwards to the home industry by showing what the country can produce. This is one point we wish to impress upon all concerned.

Among other considerations beyond those above-mentioned, all tending to favour the chances of a thoroughly representative display in the Trophy class of 1897, there are, first, the very favourable response received in answer to a preliminary inquiry sent to all county associations by the Council of the B.B.K.A., in order to ascertain their feeling on the subject; and, second, the fact that honey of any year is eligible to compete. The latter condition levels down or equalises the chances so completely that counties wherein honey of the current year is obtainable in time for the show possess no appreciable advantage over northern counties, whose bee-keepers are perforce compelled to rely solely on carefully re-liquified honey of previous season's gathering.

In conclusion, we must also draw attention to certain special arrangements for the Manchester meeting. The show is usually opened to the general public on Monday of the week in which it is held. In this case, however, the opening day will be Wednesday, June 23, the popular or "shilling days" being Saturday, the 26th, and Monday, the 28th, on which day the exhibition comes to a close.

So far as the general anticipations regarding the show, it is calculated by by those well qualified to judge that it will be a record one. With H.R.H. the Duke of York as President for the year; the show-yard located in so great a centre of industry as the city of Manchester; and a prize list totalling no less a sum than £8,250, the extent of the exhibition and attendance of visitors will no doubt be alike enormous.

That the local committee is capable of rising to the occasion is shown by their contributing considerably over £3,000 to the prize fund. They have also entered so heartily into the work of making the exhibition an exceptional one even in the annals of the "Royal" shows that the best results are (weather permitting) practically assured.

BRITISH BEE-KEEPERS' ASSOCIATION.

The monthly meeting of the Council was held on Friday 11th inst., at 105, Jermyn-street, S.W. Present: Mr. E. D. Till (in the chair), Hon. and Rev. Henry Bligh, Major Fair, Messrs. W. Broughton Carr, W. O'B. Glennie, J. H. New, Thos. I. Weston, J. M. Hooker (ex officio), and the Secretary.

The minutes of the previous meeting were read and confirmed.

Mr. Arthur J. Brown, School of Handicrafts, Chertsey, was duly elected a member of the Association.

The Chairman presented the Finance Committee's report, which was accepted.

It was stated on behalf of the Education Committee that the examiners had under consideration the papers written by candidates for second-class certificates at the recent examination, and would make known their decision in a few days. The Committee proposed certain alterations in the rules relating to the Association's examinations, the suggested improvements providing for a longer notice than was now required from affiliated branches. They would lay their proposals in definite form before the Council at a future meeting.

The report of the Exhibitions Committee was laid on the table, and gave details of the Prize Schedule for the Honey and Hive Department of the Manchester meeting of the Royal Agricultural Society in 1897. In order that the particulars may be early in the hands of intending exhibitors, it was resolved to ask that the schedule be printed in the columns of the B.B. JOURNAL, and Mr. Carr kindly promised that this should be done.

Mr. Till made a statement explanatory of the efforts still being made to collect the necessary statistics in regard to the prevalence of bee pest in the country, and after a short discussion thereon the meeting terminated.

ROYAL DUBLIN SOCIETY'S WINTER SHOW.

The honey exhibits at the above Show, held on December 8 and 9, marked a great advance on those sent to previous exhibitions of the Royal Dublin Society, which had been held in the spring. This, no doubt, is largely due to the present being a far better time of year for exhibiting honey than in the spring. The

convenience of bee-keepers has further been consulted on this occasion by the introduction of two classes for twelve sections, twenty-one sections having formerly been the only number admissible. Some effect may also have been produced by the Irish Bee-keepers' Association having sent a special circular to their members, giving notice of the Show and particulars as to the honey classes, especially having regard to the fact that the great majority of the exhibits were from members of the Association. Thirty-six exhibits had been entered and thirty-three were staged.

The following is the list of prizes awarded :—

Twenty-one 1-*lb. Sections.* — 1st, Peter Brock ; 2nd, Joseph M. Colahan ; 3rd, Miss Daly.

Twelve 1-*lb. Sections.*—1st, Peter Brock ; 2nd, Mrs. M. Power ; 3rd, Thomas McGrath ; highly commended, Thomas A. Govan.

Twelve 1-*lb. Sections* (*Heather or Dark Honey*).—1st, Mrs. M. Power; 2nd Miss Montizambert.

Twelve 1-*lb. Jars of Extracted Honey.*—1st, Miss Daly ; 2nd, Matthew Henry Read ; commended, Thomas A. Govan.

Twelve 1-*lb. Jars of Extracted Heather or Dark Honey.*—1st, Anthony O'Donnell ; 2nd, Thomas A. Govan.—(*Communicated.*)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*"

"HOMES OF THE HONEY BEE."

[2732.] A Cambridge chair, an "incandescent" shining over one's shoulder, a number of B.B.J., *illustrated*, and then, at the sight of the counterfeit presentment of your bee-garden as I smoke one of my evening pipes, comes a series of sweet mental pictures, vista after vista of delightful reminiscences covering a period I do not hesitate to designate quite the happiest of my life.

Behind me an old bureau, in the bottom drawer of which, I remember, there is a collection of my "bee-keepers' photos." Surely these pictures will intensify the delight of these pleasant mental retrospections. On the top of the photograph I find a dusty brown-paper parcel, containing, my conscience tells me, MSS., paper, and a few wrappers, *the property of the proprietors of the* B.B.J. Surely this is a concatenation of circumstances forcing me for very shame's sake to drop you a few of my memories, whether or not they will interest the present generation of your readers.

How well I call to mind the visit to your bee garden, for was I not with you as well as "X'Tractor"? No one knows better than myself the bright enjoyment of that time—the charming walks, the chatty talks, common decency in manners alone preventing us from each talking at the same time, each had so much to tell. It seemed as if one had to watch and wait, until the narrator stopped for breathing time in order to get one's "spoke in" (should I not say "speak" here?). Then the music—for bee-keepers can sing and play, strange as it may seem—and the early morning walk through the dewy strawberry-fields back to dull duty. Eheu! fugaces. How Old Time flies and leaves us—*pace* Mr. Dentist—toothless wrecks, with only bright clear memories of past joys.

I see amongst my collection pictures of the bee-gardens of my old friends, Jack Howard, of Holme, C. N. White, of Somersham, "Amateur Expert," W. Dixon, of Leeds, and I call to mind how in past times I used to visit the apiaries of noted men in the craft, and describe what I saw in your columns ; to wit, those of T. B. Blow, G. Neighbour & Son, C. N. Abbott, Rev. G. Raynor, "Amateur Expert," and W. Dixon.

All these are burnt into the tablets of my mind, not in a dreary monotone of colour, but in vivid prismatic bits of brightness that make a harmonious mosaic, delightful for the mental eye to rest upon.

Young bee-keepers! Be enthusiastic, be bee-enthusiasts (I am not stammering, if halting), go into it heart and soul, and if you should, as probably you will, find greybeards in the science, who hesitate to go your pace, and check somewhat your ardour, I give you my word you are putting aside in your mental savings-bank such a store against the rainy days of after years as will entrance you when you come to sit by your ain sel, and think of the homes of the honey-bee. You have done "X'Tractor" the honour of quoting him, I see, and as we were inseparables, you also honour

R. A. H. GRIMSHAW, *December* 14.

A CHEAP RAPID-FEEDER.

[2733.] I never have extracted from brood-combs, but in feeding driven bees and finishing off for winter, a rapid-feeder is very useful. A feeder entirely of wood is apt to get musty, sour, and leaky when not in use ; then, when put on hive and filled with warm syrup, either distributes it all over quilts, or has a disagreeable smell which cannot be pleasant to the bees. So now, after several experiments, I think the following answers best. It is made on the lines of best makers, costs little, is easy to clean, will last a long time, and any

cottager can make one. I do not give dimensions, as tin boxes may vary in size. I take a shallow tin biscuit-box, which is to be the reservoir. If it leaks when filled with warm water, some solder run round seams soon puts it right. A wooden partition $\frac{3}{8}$ in. higher than sides of box, with saw cuts or small holes to let the syrup through and keep back the bees, is fixed 1 in. from end of box by two nails driven through tin near the top of side; the float is similar and moves easy, being lifted up when filled by syrup, the bees getting their food through the holes without fear of drowning. A wooden case is now made $1\frac{1}{2}$ in. longer than tin box, $\frac{3}{8}$ in. higher, but only wide enough that reservoir can be lifted for cleaning without trouble, a hole in bottom at one end of case $\frac{1}{2}$ in. by 3 in. allows passage from hive, strips of wood $\frac{1}{2}$ in. by $\frac{3}{8}$ in. are nailed round under the bottom at the edge, so that the bees can thus pass into feeder if the feed-hole in quilts and feeder are not directly opposite. The lid can be of glass or wood as may be thought most suitable; if of wood, mark the end where partition is so that you do not slide it off wrong and let out bees when filling feeder. — "A SATISFIED COTTAGER," *Sevenoaks, December* 14.

MEASUREMENTS OF "W.B.C." HIVE.

[2734.] Will you kindly help me out of a difficulty? I am constructing a "W.B.C." hive, and cannot make an equation of the measurements of the body-box as given in the B.B.J. of February 1, 1894. It there states that the side pieces are $17\frac{5}{8}$ in. long, grooved 1 in. from each end. End pieces $\frac{3}{8}$ in. thick.

Now $17\frac{5}{8}-2\frac{3}{4}=14\frac{7}{8}$ in., and the inside measurement should be $14\frac{1}{2}$. To take all the measurements given, they stand thus:—

Strip.	Square Piece.	End.	Inside Measure.	End Piece.	Square Piece.	Strip.
$\frac{1}{4}$ +	$\frac{3}{4}$ +	$\frac{3}{8}$ +	$14\frac{1}{2}$ +	$\frac{3}{8}$ +	$\frac{3}{4}$ +	$\frac{1}{4}=17\frac{1}{4}$

and should = $17\frac{3}{8}$. Those bracketed = $16\frac{3}{4}$, and should be 17 full for top bar. In what respect are these figures wrong?

Should the $\frac{3}{4}\times\frac{3}{4}$ pieces be increased to $\frac{7}{8}$ full? I want the measurements of the hive exact. — TRURO, *Alconbury, Huntingdon, December* 10.

Not being an expert in the technicalities of joinering, we forwarded the above communication to a manufacturer, whose work we knew could be relied on, and asked him to help us in giving an accurate reply. He was good enough to promptly furnish us with the following:—In reply to yours *re* "W. B. C." hive measurements. We cut our sides $17\frac{1}{32}$ in. long, *not* $17\frac{1}{8}$, and nail the $\frac{1}{4}$ by $1\frac{3}{8}$ *on* (not let in as in the B.B.J. referred to). This keeps the $17\frac{1}{32}$ true; but we put an additional flat piece at the bottom from inner wall to $\frac{1}{4}$ in. beyond the $(17\frac{1}{32})$ side-wall ends, so that when tiered up both match together, thus stopping draught between boxes.

For the rest, the distance apart of the side pieces—between which top bar of frame rests—is $17\frac{1}{32}$ in., the "side pieces" being $\frac{1}{4}$ in. thick, $\frac{7}{8}$ in. wide. The strips at *top side* of box are $\frac{7}{8}$ in. *full*, wide, by $\frac{1}{2}$ in. or $\frac{3}{4}$ in. thick; those at bottom side must be $1\frac{1}{8}$ in. by $\frac{1}{4}$ in. The *inner* walls are $\frac{3}{8}$ in. thick and $14\frac{1}{2}$ in. apart on *inside*. If these figures are added together the total *outside* for over all-measurement of box is $17\frac{1}{32}$ in.

The inside measurements of body-boxes (deep and shallow) are $14\frac{1}{2}$ in. by 15 in.; sides, $\frac{1}{2}$ in.; inner walls, $\frac{3}{8}$ in. by $15\frac{1}{4}$ in. long, let into sides $\frac{1}{8}$ in. at each end.

We have improved the method of fixing the tin "runners" for frames on inner-walls by bevelling top edge of latter instead of leaving flat as formerly. Our roof is also improved, as you know, in form compared with the original, and the sizes are a little different from the description which appears in B.J. of February, 1894.

I should be very pleased to have an order from your correspondent for an accurately-made "W.B.C." hive as a pattern for him to work by in making his own."

[We properly refrain from naming the gentleman to whom we are indebted for the above particulars, but cannot do less than express our willingness to forward an order if sent to us.—EDS.]

THE SEASON IN WILTS.

[2735.] I seldom see a report from this, the north-west, or indeed any parts of Wilts in BEE JOURNAL, and thought a few words might not be uninteresting to some of your more favoured contributors. The season of 1896 has been a very poor one here. Owing to the early mowing of the sainfoin in this district we rarely make an average of over 30 lb. per hive, but this year it has only reached 14 lb. with me, and not half that amount with some I know within a couple of miles of me. The best wholesale price I have been able to obtain is $5\frac{1}{4}$d. per lb. Therefore, if my bees were kept solely for "£ s. d.," I should have more complaints than "Disappointed Cottager."

My retail price never exceeds 8d. per lb., and some people grumble at paying that.

Swarms have been very scarce this year, and owing to this, cottagers' skeps were heavier at driving time than I have ever known them. *Braula cæca* parasite, which I have not seen previously in my own apiary, has been very abundant in several colonies this year. The clover and sainfoin crops, and also the early dandelion (of which we have a superabundance) promise well for next year, and could we prevail on the farmers to let the sainfoin stand till in full bloom, I should be a far from "Disappointed Cottager."—F. WOOLDRIDGE.

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

The illustration below shows the apiary of one of the oldest and best known of our cottager bee-keepers, Mr. John Walton, of Weston, Leamington, whose figure appears in the background. The limited space to which the hives are of necessity confined prevents the making of anything like an attractive picture of the bees' homes; in fact, only a view taken from a housetop or a balloon would afford the photographer any chance at all of showing the arrangement. None the less, Mr. Walton has made his bees a success there for well-nigh forty years, and is still hale and hearty, though in his sixty-sixth year. A good instance of our old friend's continued interest in "the bees," and the energy and enthusiasm with which he is still blessed, Mr. Walton left home for town on the morning of the late Dairy Show, which he attended and enjoyed. In the evening he was present at the Conversazione of the B.B.K.A at Jermyn-street. Left town by the midnight train, talked bees with a friend most of the way to Leamington, which was reached at 3.55 a.m.; after which he started for a five-mile walk home to Weston, arriving there at 5.20—to use his own words, "well pleased with my day's outing."

MR. JOHN WALTON'S APIARY, WESTON.

An account—somewhat condensed—of a visit paid to Mr. Walton's place by the Editors of this Journal on the occasion of the Royal Show at Warwick in '92 will suffice to describe the place and its surroundings since the following appeared in the B.J., for in no way are the surroundings altered.

"Starting from our headquarters at Leamington-Spa on a fine day in the "show" week, we drove three or four miles through a beautiful part of Warwickshire before reaching Honey Cott. And a very pretty little "cot" it is, nicely retired—just far enough away from the main road to suit the owner of a goodly stock of bee-hives—and surrounded by all that makes a "model" for an English cottager's home. The front, facing south, is covered by a large plum-tree, loaded with fruit when we saw it. Flowers, fruit, and vegetables grow in abundance in the good-sized and well-kept garden facing the cottage. Indeed, the neatness, scrupulous cleanness, and order prevailing everywhere, inside and out, made it quite delightful to contemplate how many of God's best gifts are available in a humble home with such occupants as John Walton and his good wife. Our host met us, and, after a cordial greeting, we were soon busy among the bees. The most prosaic—though by no means a dull or uninteresting—part of the surroundings is the bee-*yard*, which, in every sense, it is. No one would call it a bee-*garden*, for nothing grows in it if we except bees and honey. The bee-yard, then,

is situated just beyond the cottage-garden, on one side of a meadow lying between it and the road. The hives—between fifty and sixty in number—are all 'bar-frames,' and stand on just so much ground as holds them, and allows passage-way between each, the limited space at command compelling this arrangement, while the entrances in many of the hives face each other. Altogether, it strikes an onlooker how advantageous it would be to have the hives occupying about four times the space. However, as one sees plainly, the bees have grown and multiplied, while the size of the yard perforce remains stationary, so Mr. Walton makes the best of it, and is too old a bee-man not to be able to maintain order, even in so crowded an assembly of 'workers' as his.

Looking around, we notice very needful mems. chalked on the backs of the hives, such as: "Supered May 23rd for extg.," or "Q-cells due June 25th," and such like, which keep the bee-keeper in "touch" with his bees and their work. All the hives are numbered, and many have special appellations painted thereon, historical, humorous, and otherwise, commemorative of some event associated with each. Mr. Walton, being himself a carpenter by trade, makes all his own hives, besides many of the appliances used. He has no less than five workshops and manipulating-houses of various kinds, some inside the cottage—cosy little places these, where the "winter evening's work" goes on—and others out among the bees, where, in the early summer evenings, after the day's labour of superintending the workshops at the Reformatory close by is done, he can pursue his bee-work, while, through the window in front, the enormous crowds of his little assistants labour under the eye of the (bee) master.

In one of these workshops were piled racks of sections ready for use, reaching from floor to ceiling. In another—the extracting-house—all the extracting is done, and done well, by the very machine with which Mr. Walton took a prize at the Alexandra Palace ever so many years ago.

Then we passed out among the hives again, and had a look into several of the stocks. The bees are almost wholly hybrids (Carniolan and black), this being the variety our friend prefers. All the colonies were doing well, the almost uniform strength of the stocks evidencing attention to this important point, but as that part of Warwickshire is not an early district, the main ingathering had not begun at the date of our visit.

We had afterwards evidence of our host's mechanical skill in the shape of an actual home-made harmonium, and a very excellent one, too. In fact, after a most enjoyable afternoon, we left Honey Cott full of the conviction that the home surroundings of a cottage bee-keeper of John Walton's type may be made as fruitful in making life worth living as would be the possession of thousands.

Queries and Replies.

[1613.] *Queries re Bee-keepers' "Guide Book."*—1. Referring to the question whether the system of doubling and storifying – mentioned on p. 56 of "Guide Book"—might not be applied to working for sections as well as for extracted honey, I may perhaps explain my meaning more clearly by asking would it be advantageous to place a body-box, containing brood only, on the top of another similar box containing brood and bees (this is what is called "doubling," I believe), these two body-boxes being used by the queen, and then placing racks of sections over all, instead of using shallow frames for extracting? 2. Or, as an alternative plan, restrict the queen by excluder-zinc to the lower body-box, remove upper one when brood is hatched out and combs are filled with honey for extracting, and continue supering with racks of sections? This would insure a large lot of bees for section honey. A large population being desirable when working for extracted honey, I fear I cannot see why it is "obvious" that a large number of bees would not be desirable for section honey too? If it *is* obvious, there is an end of it, but I have not been able to sleep through puzzling it over, and still I cannot see it.—Geo. M. Saunders, *Keswick.*

Reply.—Our correspondent, by re-writing his query as above, makes the reply less difficult from his point of view. We therefore beg to say "Doubling," as dealt with in "Guide Book," is recommended as a very profitable method of working for *extracted* honey, the plan being to remove all the combs of brood from one hive and give these to the stock chosen for "doubling." As the added brood hatches out, the empty cells are filled with honey, and with a largely increased population of workers this is done rapidly. The combs, as fast as sealed over, are removed, the contents extracted and the frames given back to the bees to refill. The excitement engendered by thus returning combs wet with dripping honey causes the bees to redouble their efforts to refill them, and the result is a very large increase in honey by this method. But when we are asked why the plan should not be applied in working for sections, we reply that, for "obvious" reasons, it is unsuitable, and must be pardoned for still failing to see why there should be any puzzling to find out "why?" On the other hand, the giving of brood from a second hive to a colony intended to be worked for sections, will no doubt be advantageous; but allowing the queen a double set of brood-combs would rather tend to operate in an opposite direction.

[1614.] *Using Carbolised Cloths.*—Will you kindly give me your opinion of the accompanying sample of honey. It is from three hives and of three separate "takes?" The last I

got off had a lot of unsealed honey in the shallow frames, which I was advised to extract along with the sealed. This I did, and it seemed all right. Then I sold some to a friend; it was found to be uneatable, owing to a strong flavour of *gas-tar*. This I can only account for in one way, namely, the use of carbolised cloths when wet. I sold the honey just after extracting, and think if the cloth had flavoured it, it had not had time to evaporate. I should like your opinion on the subject. The honey I send you is of the same lot. I don't think the flavour fine by any means, but consider it eatable and saleable. Do you? 2. Do you approve of carbolised cloths, or do you prefer the smoker? I use the former, as the bees become more subdued. 3. I made a solution according to Mr. Webster's directions, but it never looked like that he made. Instead of being a dark brown, creamy liquid, it was quite pale, almost colourless, and the acid seemed to be separate from the glycerine and water. Can you give me any reason for this? I shall be glad to have your opinion and advice, which has been so useful to me on former occasions.—L. C., *Boldmere, December* 9.

REPLY.—1. Honey received is, in our opinion, quite unfit for table use. 2. Carbolised cloths are very useful at times in careful hands; but for subjugating bees, and for general use about the apiary, we, in common with probably ninety-nine out of every one hundred bee-keepers throughout the world, rely on smoke for subduing bees, and use only the smoker in all manipulative operations about hives. 3. We will draw Mr. Webster's attention to this query, and ask him to send us a line of reply.

[1615.] *Making Artificial Swarms.*—Will you kindly state whether, in your opinion, the following method of artificial swarming would be a success? I intend to place an old skep colony on top of a bar-frame hive about March next, feeding with syrup to encourage brood-raising. Now, if about April or May following, the frame-hive—by that time containing brood, bees, and queen—is removed about 70 yards away, will the flying bees of the removed colony return to the old parent skep left on the old stand, or are they likely to remain where removed, and be strong enough to fill supers?—A B.B.J. READER, *Malton, Yorks, December* 12.

REPLY.—Supposing that (as stated) when removal takes place the frame-hive contains brood, bees, and a queen—or, in other words, the brood-chamber has been transferred by the bees themselves to frame-hive placed below their original domicile—the flying bees of the removed stock will certainly return to the skep left on the old stand. They will there find themselves without the means of raising a queen, and eventually come to grief, unless supplied with one. The removal will also tend to considerably weaken the stock in frame-hive through loss of bees; consequently the proposed plan of making an artificial swarm will fail.

Echoes from the Hives.

Helmsley, North Yorks, December 14.—What abnormal weather we are having! Yesterday, although there was a cool breeze blowing, the sun was out, and the bees in my apiary evidently felt its genial warmth, as they turned out in strong force, and their hum could be heard thirty yards away. Breeding is evidently going on in most of the stocks, as every day when weather is favourable—and that has been five out of the last seven—a great number of bees have visited the watering-places, a proof that there is young brood hatched out. Stores, especially in strong stocks, will be a diminishing quantity, and new beginners will need to take timely warning to get a supply of candy-cake on hand and give to those stocks at once which may need it. As the season of 1896 is over, and we are looking forward hopefully to that of 1897, would it not be instructive to bee-keepers in general if those who have really found a swarm-catcher to answer the purpose intended would give their experience in B.B. JOURNAL?—R. NESS.

TAKING HONEY WITHOUT KILLING THE BEES.

A REMINISCENCE OF 130 YEARS AGO.

"On the 14th day of October, 1766, Mr. Wildman, of Plymouth, who had made himself famous throughout the West of England for his command over bees, was sent for to wait on Lord Spencer, at his seat in Wimbledon, in Surrey; and he attended accordingly.

"Several of the nobility and people of fashion were assembled, and the Countess had provided three stocks of bees.

"The first of his performances was with one hive of bees hanging on his hat, which he carried in his hand, and the hive they came out of in the other hand; this was to show he could take honey and wax without destroying the bees.

"Then he returned into the room, and came out again with them hanging to his chin, with a very venerable beard.

"After showing them to the company, he took them out upon the grass walk facing the window, where, a table and a table-cloth being provided, he set them upon the table and made the bees hive therein."

"Then he made them come out again and swarm in the air, the ladies and nobility standing among them, and no person stung by them. He made them go on the table, and took them up by handfuls, and tossed them up

and down like so many peas; he then made them go into their hive at the word of command. At five o'clock in the afternoon he exhibited again with the three swarms of bees, one on his breast, one on his head, and the other on his arm, and waited on Lord Spencer in his room, who had been too much indisposed to see the former experiments; the hives from which the bees had been taken were carried by one of the servants.

"After this exhibition he withdrew, but returned once more to the room with the bees all over his head, face, and eyes, and was led blind before his lordship's windows. One of his lordship's horses being brought out in his body clothes, Mr. Wildman mounted the horse with the bees all over his head and face (except his eyes); they likewise covered his breast and left arm. He held his whip in his left hand, and a groom led the horse backwards and forwards before his lordship's window for some time.

"Mr. Wildman afterwards took the reins in his hand and rode round the house; he then dismounted, and made the bees march upon a table, and, at his word of command, retire to their hive. The performance surprised and gratified the Earl and Countess and all the spectators who had assembled to witness this great bee-master's extraordinary exhibition." —*Annual Register*, 1766.

"Can honey be taken without destroying the bees? There are accounts to this effect in several books, but some of the methods described are known to have failed.

"The editor is desirous of ascertaining whether there is a convenient mode of preserving the bees from the cruel death to which they are generally doomed after they have been despoiled of their sweets."—Copied word for word from *The Every-Day Book*. Published 1830.—P. E. B.

I happened to be looking through a volume called an "Every Day Book," and I came across the above interesting article on bees. I copied it out just as in the book, and take the liberty of sending it to you, hoping it will prove of some interest.—P. E. Buckwell, *Cheriton Rectory, Shorncliffe.*

AT WHAT AGE WILL BEES FIRST GATHER STORES?

Will bees ever go out in search of food before being from fourteen to eighteen days' old?

On this question authorities are as yet divided. Dr. Miller says yes; Vogel, of Germany, no. Of course, one of the two must be wrong. In the *Bienenzeitung* of 1891 Vogel had a long article in which he showed that bees less than eighteen days old would sooner starve than go out in search of food. I was inclined to think he was right, not knowing the reasons that led Dr. Miller to arrive at *his* conclusion; but the more I thought of it the more uncertain I became. Dr. M. would have spoken his proverbial "I don't know" if he had not had conclusive evidence, I concluded, and so I decided to settle the question to my own satisfaction; for it seems, although we may read and study the ablest written articles giving the best of proof, nothing convinces us quicker or so thoroughly and lastingly as what we have seen with our own eyes. Seeing is not only believing, but knowing. I will now tell the reader what I found out.

In order to see how young a bee would work in the field I thought it necessary to form a colony out of all *just hatching* bees. So, on June 4 I took four nice clean combs, all worker size, and gave them to as many different colonies, placing them in the centre of their respective brood-nests. On June 25 I collected them again, placing them in a previously and specially-prepared chamber with wire-screen bottom, setting the whole over a very populous colony, quilts and cushion removed. In this way, and by means of hot "soap-stones" on top, and wrapping all in blankets, I tried to keep the temperature up to the desired point, so the brood and bees would not suffer either way. When I placed these brood-combs in the above-named chamber some bees had already commenced hatching from them. On June 28 quite a number of bees had gathered, forming a regular cluster. I gave them then a new and somewhat isolated location, and for a fly-hole I opened a previously bored ⅝ in. hole, being about 2 in. above the bottom-board. The oldest bees in this little colony were now just three days' old, but not one came out, not even peeped out, that afternoon, although the sun shone warm. The next afternoon a very few bees showed themselves; some few specked up the outside of the hive a very little around the fly-hole, but not one attempted to fly off. The next day, at 3 o'clock in the afternoon (June 30), the oldest bees being then just five days old, there was suddenly a commotion, to be noticed from quite a distance. I was at my post in a minute. Quite a number of bees were flying off and kept flying, apparently in for a play, and, judging from the specking the previous day, perhaps for a cleansing flight. This lasted some fifteen or twenty minutes. Then things became quiet again. Then, all at once, I imagined seeing a bee slipping into the entrance-hole, carrying a tiny load of pollen. The bee disappeared from my sight so quickly I could not be certain. While meditating and wondering whether it really could be, another bee struck the little ⅝ in. entrance-hole, but also disappeared quickly. Several more bees came in the same fashion, and, although I was as attentive as I could be, I was still undecided whether there had been pollen in any of their pollen-baskets, the

loads they carried being so small—hardly visible—and the bees always going from my sight so quickly.

The next bee that came was loaded just a little heavier. This time there was no mistake—the load of pollen was there. The bee carrying it also hit the little round entrance with infallible accuracy. I mention these observations because some one might say, "A strange bee strayed accidentally found the hive." Taking into consideration that all my other hives have their entrance on a level with the bottom-board and full width of the hives, it would seem reasonable to suppose any stray bee would drop down on the alighting-board and try to find admittance there; but although I watched quite a few more bees coming in loaded with pollen more or less, every one seemed to know just where the entrance was.

At sundown that day an examination was made. It showed that considerable work had been done to match the combs. Some honey had been changed to different places. The most surprising feature was the presence of unsealed larvæ. The small amount of open brood contained in one of the combs at the time of forming the colony on June 25 had not suffered, but had seemingly been cared for all right. A subsequent experiment along this line did not turn out so well. A colony having cast a prime warm on June 26 was stripped from all its bees July 1. The brood-combs were treated in precisely the same manner as n the other case, and on the third day I found all open brood perished. Why this difference I am not fully prepared to say.

Our basswood honey season opened on the morning of July 1. My little experimental colony sent out tis workers as regular as any other colony in the yard, they bringing both honey and pollen. No bee was at this time quite six days old. On examining the colony on the evening of this day much new honey could be seen, which dropped from the combs when held in a horizontal position.

From this time on no marked difference could be noticed between this or any other colony, except, of course, in strength. A queen was now introduced, and I should have liked to make further observations, the bees all being black and the queen an Italian; but, as it happened, she proved a drone-layer, was removed later, and one of Root's tested queens substituted. On July 25 she commenced to lay, and she soon filled the combs nicely. Now some of the bees are about fifteen days old, and many of them may be seen bringing in pollen, the honey season being at an end.

It was not only curiosity that prompted me to make my experiment, but I think the question has a bearing upon the practical side of our pursuit. If a bee cannot be induced to go out in search of food before eighteen days of age, then we shall have to be all the more careful when forming new colonies and nuclei so that enough field-bees may be present to conduct the business.—F. GREINER, in *Gleanings*.

HONEY AS FOOD.

WHY IT SHOULD BE EATEN.

There are four kinds of food that are necessary to health and life. These are the inorganic elements, like water, salt, phosphate, and carbonate of lime, &c.; the non-nitrogenous organic—so called because they owe their origin to organic nature, and contain no nitrogen—and the nitrogenous. The second class—the non-nitrogenous organic—contain oxygen, hydrogen, and carbon, illustrated in starch, the various sugars, and the fats. The last all contain nitrogen, and resemble in many ways the white of an egg, and so often called albuminoids. Muscle, white of an egg, cheese, and blood albumen, are illustrations of the nitrogenous food elements. That we need all of these in our food is shown in the fact that we hunger for them if they are not represented, or if they are too scantily represented in our food. Again, milk and egg, which may be regarded as typical food, contain all of these substances.

In this article we are concerned only with the second class of food principles—the non-nitrogenous organic. Of these the fats do not interest us at present, although important in all complete food rations. Bees get their albuminous and fatty food elements in the pollen. We thus have before us now only the starch and sugars. These not only contain oxygen, hydrogen, and carbon, but always contain the oxygen and hydrogen in proportion to form water, that is, two atoms of hydrogen to one of oxygen. Thus the formula for starch is $C_6H_{10}O_5$, and of water is H_2O. From the fact that starch and sugar contain oxygen and hydrogen in proportion to form water they are called carbo-hydrates. The carbo-hydrates, then, including starch, and all sugars, as cane sugar, which includes beet sugar, and maple sugar, milk sugar, and all the glucose or reducing sugars, are very important food elements, so important that we are not left, as in case of most foods, to the chance of securing them in our food that we eat, but the liver is constantly forming liver sugar, which is very much like the sugar of honey. The liver, then, is a marvellous chemist, for it can do what no human chemist can do—form sugar, though we only eat the purest muscle, like the beef's heart. To change nitrogenous material into carbo-hydrates is a wondrous transformation that man has never yet been able to perform. The liver can, and does, do it. In our early development, before the liver is sufficiently formed to be functionally active, a purely prenatal organ—the placenta—forms sugar. We all know how children long for candy. This longing voices a need, and is another evidence of the necessity for sugar in our diet.

Until a comparatively recent date cane-sugar was unknown, if we except maple sugar, and that must have been a very unimportant food article. Thus, in the olden time honey formed the almost exclusive sugar, and so must have

been a very important substance. We know by the references to it in classic writings, and in the Bible, that it was held in very high regard, as well it might be, for it, with starch, composed the entire stock of carbo-hydrates to be drawn upon by the caterer of the olden times, as he worked to satisfy the needs, or, what is about the same thing, the appetites of his patrons.

I have been told by some excellent physicians that they considered some of the worst diseases of modern times—especially Bright's disease of the kidneys—were far more prevalent than formerly, and they thought it due to the large consumption of cane sugar, which was unknown in the long ago. It seems to me that a little study of the subject may explain this, if it be true, and may give us two valuable hints—the one to eat more honey; the other, to take special pains to give children all the honey that they wish, and at every meal-time in the hope to lessen the amount of cane sugar that they will eat. They like and crave for sugar, because they need it to nourish them, and so given plenty of sugar in the honey, the need will be met, and the hunger for candy and cane sugar will be less keen.

The digestion of food is simply to render it osmotic, or capable of being taken through an organic membrane, capable of being absorbed. We eat starch; it is non-osmotic, and would lie in the stomach and intestines indefinitely, except that by digestion it is changed to a glucose-like sugar, which is very osmotic, and so easily absorbed from the alimentary canal into the blood. Cane sugar, though somewhat osmotic, is not readily absorbed, nor is it readily assimilated, even though it pass into the blood. Thus cane sugar must be digested or changed to a glucose-like sugar.

Bees gather nectar from the flowers, and as they sip it, or draw it, from the flowers, they mingle with it a kind of saliva or ferment from their upper head gland, and the large glands of the thorax, and thus transform it into honey, which contains almost exclusively a reducing sugar, and not cane sugar. Thus bees do to nectar what we do to cane sugar—they transform it to a more osmotic and more assimilable glucose-like sugar. We call this in our case digestion of the cane sugar, and it is just the same when the bees do it. If any one prefers he may call it "transformation." In any case it makes honey a safer food than cane sugar, and we do well to eat it more generally; and it is especially desirable as food for children.

Children should be given all the honey at each meal-time that they will eat. It is safer; will largely do away with the inordinate longing for candy and other sweets, and, in lessening the desire, will doubtless diminish the amount of cane sugar eaten. Thus, if cane sugar does work mischief with health, the harm may be prevented. There can be no doubt but that in eating honey our digestive machinery is saved work that it would have to perform if we ate cane sugar; and in case it is overworked and feeble, this may be just the respite that will save from a breakdown.

Again, if cane sugar is absorbed without change, it will be removed by the kidneys, and may result in their breakdown; and so physicians may be correct in asserting that the large consumption of cane sugar by the nineteenth century man is harmful to the great eliminators—the kidneys—and so a menace to health and long life.

It may be urged in reply to the above, that honey is a poison to many. This is not the sugar of the honey, but some other element, very likely the formic acid, or perhaps the extract from the flowers. It seems most likely that the deleterious element is the formic acid, added to the sweet by the bee. This keeps the honey from fermentation, and is not harmful to many; only occasionally a person is unable to eat it.—Professor A. J. Cook, in *American Bee Journal*.

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column

Lover of Nature (Malton, Yorks.).—Letters dealing mainly with either social or political questions, not being suitable to the columns of this journal, we must decline your contribution with thanks.

R. Bayley (Plymouth).—Section came to hand in excellent condition, proving that *as a section* it was *good*. We do not recognise any flavour of wild thyme in the honey, which is fairly good, though somewhat wanting in consistency. Shall be very pleased to get view of your apiary in spring.

H. Lock (South Tottenham).—*Moving Bees.*—During the winter season bees may be moved at any time after being confined to their hives for a few weeks by cold weather.

H. Thos. Precious (E. Dereham).—*Lantern Slides.*—These may be hired from the B.B.K.A. by writing to the Secretary, Mr. E. H. Young, 12, Hanover-square, W. Members of the B.B.K.A. or its affiliated Associations can hire them at a reduced charge.

G. M. (Aberdeen).—*Suspected Combs.*—No trace of brood at all in comb received. If there are no capped cells at all in the remaining combs no alarm need be felt as to foul brood.

Editorial, Notices, &c.

USEFUL HINTS.

WEATHER.—For some time past we have considered that the occupying of space in this column under the "Weather" heading was more honoured in the breach than in the observance, seeing how small a chance there was of filling it other than with grumbles. Not that we admit the possession by bee-keepers of a greater propensity for growling than is shown by other folks. In fact, the general tendency of Britons in this direction is clearly and very happily expressed in a leader in the *Standard*, wherein the writer says :—

"After the hot fit, the cold; and it was quite certain that a spring and summer of exceptionally dry weather would be succeeded by a wet autumn, and possibly a yet wetter winter. The expectation has not been disappointed, and Englishmen have thus enjoyed not only one but two opportunities of grumbling. Man that never is but always to be blest, according to one of our national poets, is in these islands always looking out for an ideal condition of things that is never reached, but is always going to be attained to-morrow. Meanwhile, there is either too much sun, too much cloud, too much frost, too much mist, too much drought, or too much rainfall. This last is our present condition; and it has begun to affect people's spirits to such an extent that all but the very young show themselves exceedingly irritable under the infliction. It has been a year of lamentations. In May, June, and July, men and women, after fruitlessly tapping a misleading glass, went about complaining that the cloudless, dry atmosphere injured their nerves, and that dyspepsia and a world of kindred ills were pursuing them from morning to night. When would it rain? When would there be a rattling good thunderstorm? Nor were the *malades imaginaires* the only grumblers. Farmers redoubled their ordinary dissatisfaction with things in general; nor were their jeremiads wholly unfounded, when the wheat and barley looked prematurely yellow, when there was no hay crop to speak of, when the roots were nowhere, and when all the springs in the neighbourhood were getting lower and lower every day. A class calling for less commiseration, the owners of gardens, were yet more open-mouthed, and raved and regretted as though the whole purpose of creation and the general dispensation was to grow splendid flowers and big strawberries. Being accustomed to having things pretty much their own way in this world, they considered themselves quite wronged because it did not rain precisely when they wanted it to do so, and went disconsolately about their grounds as though they were the chosen and undeserving victims of a spiteful fate. If it would only rain! Market gardeners were in a similar plight, but with a more decent pretext for their lugubrious faces. Want of moisture means a short crop of asparagus, peas that do not swell in the pod, lettuces that 'run up,' gooseberries that do not plump out, and apple trees where the grubs have all the best of the fruit. And now the rain has fallen, and has been falling for some time, and they are just as ill-satisfied, as lugubrious, and as sorry for themselves as ever."

UNTIMELY BEE MANIPULATIONS.—So constantly have we, in these pages, deprecated the bad habit of opening hives, examining combs, and in various ways causing wholly unnecessary disturbance to bees, at unseasonable times, that one wonders why bee-keepers—especially those who are inexperienced—should fail to bear in mind the undoubted risk of queens being "balled," and other minor evils which must always attend such practices. Readers are again and again reminded of the need for leaving hives severely alone at certain seasons. The reason why this is so may be explained in a few words. For a few weeks after the active work of the year is over, and before the bees have fairly entered upon what may be called the period of hybernation—they are liable to display a kind of jealous fondness—or the opposite, it is hard to say which—for the queen, and this sometimes has the curious result of causing the bees on being excited unduly by disturbances to "ball" her, this balling meaning neither more nor less than death! The same thing is liable to occur in early spring, just when brood-raising is becoming

active. Well, as we have said, the unfortunate part of the affair is that in most cases the operator is quite oblivious to the fact that over-disturbance or rough handling of the combs is in any way to blame, when a queen is seen cast out of hives dead, in late autumn or early spring, but it is so. There are, we admit, many bee-keepers of experience who pay no attention whatever to risks of queen balling, but they are not liable to make the mistakes which end so disastrously to others. They know when hives may be opened and when to leave them "severely alone," hence their immunity from damage. It is also very curious to note how one man may overhaul combs, and the bees show nothing like resentment, while handling by another will cause great excitement and upset among them. In any case, however, the point to impress on all is, avoid untimely bee-manipulation and unseasonable disturbance of hives, except when dire necessity compels such.

HOMES OF THE HONEY BEE.

OUR ILLUSTRATIONS.

Arrangements have been made for printing future issues of the BEE JOURNAL on paper more suitable for half-tone blocks of fine grain than that hitherto used. By this change it is hoped that fuller justice will be done to the illustrations.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*"

DOINGS OF THE PAST MONTH.

[2736.]—To chronicle "doings" in the apiary in December is an easy task, there being practically nothing to be done save clearing away rubbish and straightening up such odds and ends as will make the place look tidy and neat; to pack away appliances, new and old, and to see that hive entrances are kept clear and the inmates undisturbed by mice, &c. It is also a good time to re-arrange the apiary, if necessary. Bees were flying on several occasions during the month. I was glad to note this, as an occasional flight at this season is helpful towards bringing them safely through the winter. In moving about the apiary in winter care should be exercised not to knock against the hives, or to cause any shock to be felt within, damage being not seldom done by a sudden untoward disturbance. I have a letter from a bee-keeper in Scotland, who, on the 4th inst.—from some cause not apparent—had a valuable queen destroyed and turned out. I also note another case of the same class in the JOURNAL of the 10th inst. (2726, p. 492). These misfortunes can only be ascribed to undue disturbance, causing the cluster to be perturbed and the queen "balled" in consequence. Hammering, digging, or operations causing violent disturbances, are apt to be dangerous if permitted in the vicinity of hives at this season. Quiet restfulness is what is wanted. I visited the "works" down in Kent a few days ago and realised the advantage of quiet solitude for the bees. Cold, bitterly cold, with a leaden sky overhead, a dull mist half hiding the surrounding hills, and the half rain, half sleet falling with a persistency known only to *some* December days, the bees were all snug indoors safe and free from even accidental "balling" of queens. Asleep, so to speak, in their little "cots" like the babies! The "works" were as hermetically shut up as if a strike had occurred. Except for the chirp of a bird occasionally, all was silence; and, with a return train to wait for, the inside of the "hut" was sought, "the pipe" lighted, stove got ready, and preparations made for a "coffee," one's thoughts going back the while to the swarming days of the early summer of '96. How—as my "watcher" informed me—for nearly a week a swarm from one of my hives had issued, gone back and re-issued, day by day, only to again return, because of the queen being retained by the queen-trap, described on page 203 of vol. 22. How on the bright summer's morning, when I got away from "town" to the bees, I was told by the aforesaid watcher of the swarming vagaries alluded to above. How the hive had every evening a swarm clustering outside, and how they had gone in again during the night. I had scarcely been informed of what had occurred, when an uproar at the hive referred to confirmed the exclamation, "They're coming off again!" and sure enough the bees were tumbling and scrambling through the zinc perforations of trap into the open air. A moment sufficed for removal of queen-trap; then to watch the swarm mounting higher into the glorious sunshine, and, finally—with their queen at last one of the throng—settle down

in a goodly cluster to wait for my hiving. Little incidents like these—full of life as they are—bring back pleasant reflections at this dead season, and, while indulging in such, one forgets the leaden sky, the soaking rain, and howling wind, and all the "uncomfortables" outside, and make us live it all over again. Viewing all the circumstances of that particular swarming-out and returning on four successive days, and my final securing of the bees on the fifth attempt, I know why I have made up my mind to place a similar appliance on all my honey-getting stocks this coming season.

I am more than ever convinced that the secret of successful wintering is to pack warmly above frames, and that side-packing between the walls of hives is unnecessary. With plenty of top-packing and water-tight roofs, together with plenty of food in store, no one need fear the rigours of our winters. I have been trying very thin sheet-zinc for covering hive-roofs, and it answers admirably; better than any material I have yet seen. It is light, inexpensive, and absolutely effective, with the advantage of being practically everlasting. I advise its general adoption for the purpose. No matter how "shaky" a roof may be, if it holds together at all, a sheet of this thin metal and a coat of paint transforms it into a sound, presentable roof. Before my next remarks under this heading appear, the most critical time for bees will have been reached. Few bees are lost in December, as they usually have plenty of stores still on hand, and their numbers are not materially diminished; but the cold, cutting winds and severe frosts later on severely test the staying powers of bees and mortals alike, and nothing should be omitted which may be required to ensure the safety of our charges. I specially refer to plenty of quilts and waterproof roofs. There is still time to see that these necessities are in order.

One can hardly realise that the eve of Christmas will be here when these lines are in print, and the old season's greetings going forth throughout the land, "Peace on earth, goodwill towards man." For my part I think it well that we have a festive season to cheer up the otherwise dull days of December, and when, as the year closes, one listens to the bells ringing out the old and the new year in, it adds to the gladness to feel that we are on the turn towards the brighter days of summer with its sunshine, warmth, and the far sweeter sound, to my mind, of the joyful hum of the busy bees once again at work among the flowers; all betokening prosperity and contentment.

Thinking of the coming year reminds us of the march of time and the constant changes brought about by the never-ending forward tread of the old scythe-bearer. In this direction bee-keepers will have to bear in mind the matter dealt with on page 491, where a warning editorial note is sounded as to the need for upholding the quality of British honey so far as maintaining its good name and claim to preference over the foreign article imported to these shores.

The demand for British honey is still good, and ready sales can be effected. But when the supply is short, and the demand unsatisfied, inferior foreign produce finds its way on to our market at the price of—and in lieu of—British honey. The remedy for this condition of things is to keep up a steady and continuous supply of good British honey on the home market. It is now in our own hands to see to this, but how long it may remain so, who can tell?

Another sign of the changes worked by time that strikes one is the way things grow or expand. I find my belongings so growing as to necessitate a further expansion, necessitating the inclusion in my "doings of the past month" of a move, not altogether in an apicultural direction. In a word, we have a "moving job on" now (to larger premises), which promises to add still another apiary to the "Homes of the Honey Bees," now appearing in our Journal. These should be full of interest and teach many useful lessons, and be the means of bringing readers into closer touch one with another. The short descriptions you propose to give of the surroundings, systems of management, and other special items connected with each "garden," will also add much to the interest. I hope very many others besides myself will respond to the invitation, and make our B.B.J. a practical illustrated album of reference, wherein we may see the apiaries and read of the "doings" of those who assist to make the Journals the valuable and reliable periodicals they are.

Wishing our Editors and all readers a full measure of health and prosperity in the coming year.—HENRY W. BRICE, *Dale Park, Upper Norwood.*

AMONG THE BEES.

SUBJUGATOR.

[2737.] In reply to query of your correspondent, "L. C.," in issue of December 17 (p. 506), I must first call the inquirer's attention to the fact that the recipe given in my "Book of Bee-keeping" is the original one used and introduced some twelve years ago. The edition in the querist's hands is no doubt the first one, written in 1886. Since then I have experimented quite largely with various forms of presumed subjugators with the object of overcoming the uncertainty and trouble of the smoker. Well, for myself, I have succeeded perfectly with the "subjugator;" anyway, although I perform thousands of manipulations during a season, invariably without any covering to my hands or face, I use none other, and am well aware that hundreds do the same, though perhaps with a veil. Now, the querist, whom I happen to know as a very enthusiastic lady bee-keeper, complains of her honey

tasting of "gas-tar;" but if one overdoses a hive with smoke, the honey will become so strongly impregnated with that odour and flavour as to become worthless for sale So you can overdo a colony with the subjugator, though if used as directed on the labels of every bottle issued it is impossible so to do. In the latest edition (1896) of my work I do not give the recipe as in the earlier editions which "L. C." has alluded to, but advise the use of the subjugator for those who do not wish to use smoke.

The use of ordinary carbolic cloths is to some extent unsafe, owing to the cloths having to be used wet with the mixture; this is imperative, owing to its extreme volatility. I overcame this by making the subjugator saponaceous, hence its "creamy" consistency; this I found "fixed" the odour sufficiently, so that the cloths could be used dry, and for a much longer period; it also has by this the advantage that the cloths when exhausted can be put in some cold water, and, without soap, readily washed free from all dirt and residue, and can then be re-charged, and used again and again.

The separation of the water, glycerine, and acid (old recipe) was overcome by having it prepared at a manufacturing chemist—by distillation they informed me—so we get a fluid of quite a different appearance to that mixed (?) by the ordinary amateur who tries to amalgamate the compound.

Now, I suppose I mustn't find fault with the editors for a portion of their footnote, but, really, they must let me have just a little "dig" at them. The "dig" is as follows, and, of course, is offered with apologies:—I have visited just a few apiaries in my time, and think I can with safety say that ninety-nine out of every hundred advanced bee-keepers in Britain (I don't know anything about the rest of the world) use carbolic cloths, or carbolic acid in some form, or at some time or other, for subjugating bees.—W. B. WEBSTER, *Binfield, Berks, December* 21.

[In order that our reply to query referred to may be properly understood and estimated, we think it right to say that, if Mr. Webster had the sample of honey before him—as we had—he would at once admit that no amount of *fumigation*, from any source, could possibly have had anything like the effect on honey as was shown in the case dealt with. Odour is one thing and the actual admixture of carbolic acid quite another. We dealt with the latter—not with fumigation—and Mr. Webster is probably as able as ourselves to differentiate between the two.

As for our friend's "dig"—which we accept in the kindliest spirit—we cannot quite admit its force. In fact, it is to our mind, rather begging the question to say that advanced bee-keepers "use carbolic cloths, or carbolic acid, in some form." What experience abundantly proves—to those who possess so much of it as falls to the lot of editors of bee journals—is that, though in this country subjugators other than the smoker are used by some, we never hear of any intimidant for bees in countries where hives are kept in thousands, and bee-keeping is regularly made a trade or business of but the smoker.—EDS.].

DECEMBER DAYS:

AND THE BEES.

[2738.] To-day the little sprinkling of snow which has been upon hive roofs for some little time was melted on that side the gable facing the sun. My hives, being covered with zinc, gave me no concern that icy-cold water might be oozing through a crack or nail-hole. Considering how easily bees are benumbed on a spring morning when out amongst crocuses and snowdrops—how they depend for their existence on the sun's warmth and the flowers—it seems incredible how they manage to brave the untoward conditions which now exist—a cold, bitter air, a cold, grey sky, the earth covered over with frozen snow particles. Frozen snow which on earth that slopes towards the south (as in my garden) sheds icy tears over the mortal remains of lilies, of phlox, of bellflowers, of veronica.

I have little courage left to visit a spot where nought is to be seen save labels whereon is painted the names of my dear departed flowers—names written in a dead language (Latin), and the labels somewhat suggestive of tombstones! The last time I ventured I found there had been a good many local earthquakes, in the shape of mole-hills, right among the tombs of my best beloved, and sundry rabbits were making an enjoyable repast off carnation "grass" and anything else that had a blade or leaf left. Besides these trifles, my garden has always been the High-street of the cat and dog community—dogs by day and cats by night. Here they meet to love and fight, and act their little life's drama. Here, also, my neighbour's fowls periodically migrate, whilst his goat occasionally mistakes the wall for an alpine crag, and jumps over, and then may be seen an amusing fight between the beast and Sarah Jane with the mop. (I never tackle him myself since the day when he ran into me, behind, and I thought I had been shot out of an 81-ton gun!) Sarah Jane eventually persuades the beast to jump over into another neighbour's garden, and when I come to witness the havoc, I don't quite know which is the more to be feared—the goat or Sarah Jane! Truth compels me to admit that Sarah Jane's Trilbys are a good many shades larger than the goat's, as I found out when I found the imprints of them in tufts of saxifrage, and gazed upon them as Robinson Crusoe did at the savages' footprints in the sand!

I wonder whether the fog the other day made the bees' eyes sore, and got on to their chests, and made them cough? or whether they quarrelled because "Brer" Honey Bee would have it "that the fog was thicker in his

street than it was in Brer Pollen Bees' street?' I wonder if the earthquake (of which *we* seem to be rather proud!) shook the poor bees in their beds, and rattled the entrance slides so much that poor papa bee (although much disinclined) was obliged to take the poker and search for that burglar, Mr. Mouse, while the Queen held a candle encouragingly over the head of the stairs? And on the morrow, did they all sit down and write to the papers, describing how one was thrown clean up to the ceiling, and another weighing fifteen stone thrown out of bed, and yet another heard a fearful rushing and mighty explosion, and a strong smell of brimstone, while another (a professor) said it must have been caused by the fog? Did various matron and old-maid bees consider it a warning from heaven that their husbands and brothers must go to church more regularly and otherwise amend their ways? And were one and all unanimous in declaring that it woke them all up, and they never heard anything like it before in their lives? We do not know. We can only hope the bees have a language, so that they can tell tales and cheer one another through the dread season; that they have some mind, so that they know as well as we, their masters, the winter cannot last for ever! It will have its reign while old King Sol is away! It will silence our streams and bury our gardens and meadows from our sight. It will rattle our windows and pile heaps of snow under our doors. It will make us pile on the coal and huddle round the fire and fill the hot-water bottles. It will make me, in common with all bee-keepers, dejected and sad, but the coal merchant joyful! It will seem at times almost unendurable; but it cannot last! King Sol, who has never failed us yet, will come back and loosen the bonds; call all things back to life, our flowers and green-fly, our cabbages and catterpillars, our foul-brood and bees!

LORDSWOOD.

WAX EXTRACTING.

AND SOME MINOR ITEMS.

[2739.] In looking over back volumes of B.B.J. for a correspondent's letter, and about to apologise for delaying to communicate the information he sought—I had not seen his question answered, having for once omitted to divide the folded pages wherein I have now read it—I came across the subject of wax extracting (1537, p. 347; 1678, p. 507; 1685, p. 515; vol. 1893). Like "Lordswood" (2649, p. 423), I, too, was in a similar predicament to that so humorously described by him as often as I began to extract. In fact, I was becoming rather tired of seeing so much time and trouble occupied, that this autumn found me loath to make a beginning. This, however, set me thinking, for wax was ordered by a fair one, but not wishing to get "waxy," nor yet to make any one else "waxy," comply I must. Thus the thought occurred to me to requisition the "kitchener" or oil cooking-stove. What more convenient? A gentle, soft, controllable heat—try; make an experiment. Taking the "better half" into my confidence, I obtained a small muslin bag, mounted it on a temporary tripod, put a few ounces of wax (last year's uncleaned product) into it inside the oven with a cup partly filled with water, and it acted like magic. Very soon beautiful golden wax resulted. All fear of any mishap to ruffle the ruling sex was gone; the operation effected so nicely, producing such a lovely cake fragrant with the "delicious odour," no trace of burning; this on a small scale. Muslin was liable to scorch in the process, to obviate which I put it into a wire-wove strainer supported over a dish containing water, and large enough to hold a two-pound cake, then returned all into the oven and supplied fresh comb as it was melted. The cake thus procured I break into pieces, and re-melt into moulds of a quarter, half, and whole pound size. In this manner I have easily obtained several pounds' weight, and shall now hasten to extract a lot of old and discarded combs, the process being so simple and safe that constant personal supervision is needless.

My brother, who resides within easy distance of Islington, has attended the "Royal" Show for several years past, and reports very favourably both of my honey and wax as compared with the other exhibits, to say nothing of the flattering praises bestowed on the honey by friends and purchasers in different parts.

Some years ago I was offered 1s. 8d. a lb. for wax, wholesale price; this year I get 1s. 10d., and retail at 2s. 8d. to 3s. I ought to add, I have some wax nearly as black as ink, and have failed to eliminate the colour.

I hope those bee-keepers who obtained seeds of "Chapman's Honey Plant" through you last year were rewarded with fine plants. My own sowing failed, the seeds remained dormant until this spring, when they germinated, and I have now a nice lot planted out therefrom to blossom next year. It would be honourable for those recipients to describe their success or failure. I only remember one—and that a girl—referring to her success in its cultivation. I have no seeds this year for gratuitous distribution.

Wasps were exceedingly numerous during the past season, and caused considerable annoyance. In the spring I saw several queen wasps, some of which I destroyed, but could not find any nests. A stock of bees died off, leaving in the hive six frames partly filled with sealed honey. I shut up the hive to keep it ready for a certain swarm which never came off (I had only one this year), and did not trouble myself further. Some time afterwards, being attracted by a lot of wasps, I opened the hive, to find it full of them and all the honey gone! I failed to discover their entrance. The old-fashioned trap (a large-

mouthed bottle with sweetened water and a small flower-pot dropped in) proved of great service. I have a room, built of red pine, not yet painted. Frequently when inside I heard a nibbling sound as of a mouse nibbling away the woodwork. My pets—cat and dog—would be instantly on the alert, and hurry to the spot from whence the sound issued, only to be disappointed. This noise being so often repeated made me determine to find its source, and when the opportunity came I searched, and soon located it on the outside. On further examination I discovered, not a mouse, *but* a queen wasp biting the board, following the grain backwards and downwards! Since then I have seen many wasps engaged in performing the same operation, the boards being now literally covered with these marks, varying from a ¼ in. to 2 in. in length. If wasps are able to bite wood, how much more easily to pierce the rind of fruit. Well, scores of my apples were completely deprived of their flesh whilst on the trees.

And now, Messrs. Editors, I take the opportunity to express my gratitude to you for conducting and also to the many correspondents for contributing to the pages of your unique and highly-interesting journal on bee-keeping, which I regard as the most useful minor industry of the kingdom. The B.J. has afforded me immense pleasure, and its arrival invariably means longer indulgence at the breakfast-table, even when my attention should be given to other things; and as this year of grace is fast drawing to its close, to be numbered with the long past, I wish to one and all a very Happy Christmas, with successful wintering of their bees, and a prosperous New Year that may exceed in results the dying old one.—J. Q, *Tenby, December* 16.

"MEMORIES."

[2740.] When my B.B.J. came to hand this A.M. (a day late), and I read the breezy and cheery letter (p. 503) from R. A. H. Grimshaw this evening, like him, I had a series of mental pictures passed before my mind, and many "happy memories" came crowding one upon another as I read his epistle. Among others, well do I remember the first time he and I met. It was at our county show, on September 6, 1892, when I was examined for my third-class expert's certificate, and Mr. Grimshaw was the examiner. The chief thing which struck me then was his unbounded enthusiasm, coupled with thoroughness and sterling ability, which showed itself in all that he did that day, even under provoking conditions. I have also been charmed many times since then, when reading his bright, chatty "talks" in the B.B.J.; and as he and "Xtractor" are "inseparables," I have wondered if, between them, they could fit up "the hut" again, and as in "happy bygone" days we could have the apt "poetic quotations" and the "useful dodges" (but perhaps that word is too suggestive for our Editors—shall I say "hints") we used to get from "the hut," many of which I have, with advantage, put into practice.

The advice Mr. G. gives to young bee-keepers in his closing sentences will, I hope, be followed by many. I am more than ever convinced (though not a "greybeard" yet) that the more the "mental bank" is stored with bee truths and teachings, and the ways and doings of the marvellous insect, *Apis mellifica*, the more entrancing will it become. Nor is one ever lonely or sad when soothed with the "melodious chime" of the honey-bee, or after reading the letters, so brimful of Nature's teaching, which come to the B.B.J. all too seldom from "Lordswood" and others. I would like to say one word more: It is now Christmas time, when we usually "take stock," and if as bee-keepers and students we take stock of the past year, we shall find many erstwhile leaders in our "craft" have fallen out of the ranks, and their places are being filled by others. These may be sad memories, but they need not be of necessity so; especially should we remember the energy and enterprise displayed by those who are gone, and the enjoyment we have had in their company, and still have in reading what they have left us. If we strive to follow the example they have left, many a time shall we have—

> Memories, bright memories of each hallow'd name,
> Wake in our fond hearts love's undying flame.

But I must halt, or my lines will be earning a place in the "W.P.B."

Wishing all old and new friends the season's compliments. — PETER SCATTERGOOD, JUN., *Stapleford, Notts., December* 19, 1896.

BEES IN THE ISLE OF THANET.

[2741.] I have an orchard in which the top fruit is apples, pears, plums, and cherries, while underneath these are raspberry canes.

The trees are too closely planted to allow of cultivating anything else. Would you recommend sowing with clover (white) for my bees? The orchard is about two acres in extent, and I shall have in it next year about fifty stocks or more of bees. I only had four stocks—worked mainly for section honey—this spring, and give below my results for this season.

No. 1.—27 Sections...		20 lb.	Extracted...	Total 47 lb.
„ 2.—53	„	12	„	„ 65 „
„ 3.—61	„	19	„	„ 80 „
„ 4.—80	„	72	„	„ 152 „
„ 5.—26	„	17	„	„ 43 „
247		140		387

Or an average of 96¾ lb. from a spring count of four hives, No. 5 being a swarm from No. 1. I also lost a swarm from No. 2, and made artificial swarms from Nos. 2 and 3. Besides the above I got 2½ lb. of wax.

I do not think, however, that anything like a proper average can be struck from results forwarded. People seem to me to only forward their "takings" (in writing) if they have had either a particularly good or particularly bad year.

I am, of course, very satisfied with the past season, but with the exception of *one* person, I do not know any one round here who has taken anything like the same quantity of honey as myself. The good lady who forms the exception knows nothing whatever about bees, and her method has certainly the merit of originality. She merely instructs her gardener in the spring to remove the quilts and allow the bees to store cones in the roofs! In this way, singularly enough, very good harvests are got. She had about 140 lb. from one stock that I know of; this was secured at three different "takings."

I am, however, rather sorry for her gardener. I helped him with one lot, but don't think I shall again.

Thank you much for answer to my query (1611, p. 497)—H. A. O. GRIMBLY, *Minster, Isle of Thanet, December* 21.

THE LATE A. PETTIGREW.

[2742.] Your editorial, in a recent issue of B.B J., referring to Mr. Pettigrew's price for skeps twenty-six years ago (p. 492), brought back to memory the days long ago when I was a lad at school. It must have been soon after he wrote that letter to you that he came to live at Sale, where he kept a small nursery. It was a common sight to see him carrying a skep on his head—and I don't think they were upside down as is generally recommended now. He walked miles into the country places in search of stocks, and would give £1 and a new skep for a first swarm. He would leave weak stocks in charge of his country friends where there was good bee pasturage, and later in the season would take them over the border into Derbyshire for the heather. Being a Methodist and a total abstainer, Mr. Pettigrew was in great demand for Band of Hope speeches, which were always intermixed with the doings of the "busy bee." All who had the privilege of knowing him will never forget him. He never passed us lads without a smile and a kind word for us. I have often wondered if he lived long enough to enjoy the wonders of the modern system of the craft.—C. Y., *Dunham Valley, Cheshire.*

Queries and Replies.

[1616]. *Narrow Metal-Ends.*—Is it possible to procure "W.B.C." ends 1¼ in. wide? Frames with 1½ in. ends can, no doubt, be set 1¼ in. apart by alternating them, but this takes away some of the advantage of using the ends, and is not elegant. For wintering, it is just as easy to set the frames 1⅜ in. apart, with 1¼ in. as with 1½ in. ends; and when drone-rearing is desired, it is very easy to increase the distance of a pair of frames from 1¼ in. to 1½ in. from centre to centre. It scarcely seems worth while to have all ends 1½ in. wide to provide for this contingency, though, no doubt, the bees adopted the 1½ in. gauge to accommodate drones.—APIS, *Oxford, December* 16.

REPLY.—We know of no one who makes "W.B.C." ends 1¼ in. wide, and do not think it probable that any manufacturer will ever do so. The "end" as now made secures all the advantages that any single appliance can secure by simple means, so far as spacing combs apart. Besides, it must be borne in mind how large a majority of bee-keepers neither space at 1¼ in. for preventing drone-breeding, nor at 1⅜ in. for wintering. In view of this fact, the safe course is to provide an end which spaces the frames at the proper or normal distance of about 1½ in. apart, and leave those who go into the "finer points" of the art of bee-keeping to secure the narrower distance by alternating "ends" as directed, and the wider spacing by whatever simple means they may choose to adopt. To send out a "W.B.C." end 1¼ in. wide for general use would be a fatal error, and one that W.B.C. would never think of countenancing.

[1617.] *Methylated Spirit for Dissolving Naphthol Beta.*—Would you allay some uncertainty that exists in my mind? In B.B.J. of September 17, 1891, in answer to a query by "W. C. Warren," in reference to "dissolving naphthol beta in liquid," you emphatically give your verdict *against* methylated spirit:—(*Vide*). "Methylated spirit should not be used at all, as it is an impure spirit." How am I to reconcile this with recipe given in last edition of "Guide Book," in which you advise the naphthol beta to be dissolved in methylated spirit?—"HARTWOOD," *Chorley, December.*

REPLY.—Our correspondent is perfectly right as to the quotation from BEE JOURNAL of five years ago. Nor have we changed our opinion as to methylated spirit being "impure," but in view of the considerable difficulty experienced by readers in procuring pure rectified spirits of wine, we made a close inquiry as to the effect of using methylated spirit in preparing bee-food, and found that the quantity of methyl absorbed in syrup was so small as to have practically no deleterious effect on the bees. What is sold as "pure methylated spirit of wine" is therefore recommended as being easy to obtain and not harmful in use.

[1618.] *Early Queen Rearing.*—In the "Guide Book" a method of early queen rearing is described, which would be of great

value to bee-keepers desirous of keeping up a special strain of bees, if it can be relied upon to produce queens and drones before the general mass of drones are flying in the ordinary course. Some bee-keepers of experience, however, appear to doubt whether the above method in practice attains the desired object. Would you kindly give your opinion on the point—whether the method can be relied on for the production and mating of queens before the general mass of drones appear?—APIS, *Oxford.*

REPLY.—Seeing that the author of the "Guide Book" is senior Editor of this journal, and that in the preface to the book the said author-editor declares that all the practical points embodied in the work have been thoroughly tested by *himself*, our correspondent's question, as put, is scarcely an appropriate one so far as expecting to elicit any other view than that expressed in the work referred to.

[1619.] *Prevention of Swarming.*—I am obliged for your reply, on page 479, that imprisoning the queen with excluder zinc has been often tried and "completely fails" to prevent swarming. May I ask if the failure to prevent swarming is due to the queen passing through the zinc, or to the swarm depositing without the queen, or to what other cause?—MELISSA.

REPLY.—Among the many causes of failure to prevent swarming, under the circumstances mentioned above, we do not remember one of a queen passing through excluder, unless the latter was badly fixed. Failure arises sometimes from disaster to the stock, owing to the hindrance offered to free flight of the swarm; at other times swarms have been known to issue and return daily for a week or more, owing to queens' inability to accompany the bees, and thus the best part of the honey season has been lost. In fact, practical trial of the plan has caused it to be given up, as we have no doubt it will be by our correspondent if *he* tries it.

[1620.] *The Interior Surface of Hives.*—In many hives the floor and sides are either unplaned or machine planed, leaving the surface rather rough. Does not this aggravate the mischief of the gluing of the division-board to the floor and sides, which bees are apt to indulge in? Would not a smooth surface give less hold for the bee glue, and make it more easy to remove? Or does experience favour the view that it is waste of labour to hand-plane the floor and sides of the hive?—APIS, *Oxford, December* 16.

REPLY.—So far from a very smooth surface being advantageous for insides of hives, it is just the opposite. Practical experience has proved that the surface left by a fine circular saw is best, as affording foothold for bees, yet not so rough as hand-sawn wood.

[1621.] *Confining Bees to Hives; Giving Ventilation.*—1. If a hive is entirely closed till sunset—as advised on p. 152 of "Guide Book"—how do the bees relieve themselves of their fæces? 2. Or is this done outside the hive except when bees are troubled with dysentery? 3. What do you consider "giving plenty of ventilation" in the sense referred to on page 19?—G. M. S., *Keswick.*

REPLY.—1. Bees suffer no harm whatever by being confined till sunset. 2. Yes. 3. Much would depend on the amount of distress displayed by the bees owing to the heat of the day when ventilation is needed. For instance, on some July days it is quite a common practice with us to so raise hives from their floor boards—by means of wedges—as will allow the bees to pass in and out freely on all sides of the hive.

[1622.] *No Thoroughfare for Bees and Wasps.*—Can you or any of your readers kindly say—1. What is the largest hole through which a worker bee, of average size, cannot pass, while air can? 2. What is the largest hole through which an ordinary wasp cannot pass, and can an average worker bee pass through it?—APICOLA, *Oxford, December* 23.

REPLY.—If the perforations do not exceed $\frac{1}{8}$ in. neither worker bees nor wasps can pass through. There is no practical good in giving measurements in fractional parts of inches, because of both bees and wasps slightly varying in size.

[1623.] *Carniolan Queen Breeder.*—Can you oblige me with the name and address of any foreign breeder and vendor of Carniolan bees?—AGRICOLA.

REPLY. — M. Ambrozic, Moistrana bei Lengenfeld, Austria.

[1624.] *Solution for Carbolised Cloths.*—1. Would not 1 oz. of carbolic acid and 2 oz. of water—mentioned on p. 99 of "Guide Book" as a solution for carbolised cloths—be liable to burn the hands? 2. I also note that sweetened beer, in bottles, placed near hives is recommended for catching wasps; but surely this trap would catch bees, too, would it not? 3. Then the "Raynor" Feeder is recommended, but I have written to several firms, but none of them keep it. Why is this?—GEO. M. SAUNDERS.

REPLY.—1. As stated in the book, care is needed in using the solution. If this is attended to, no harm will follow. 2. We have occasionally found a bee in the bottles, but very rarely. 3. Very few firms of any standing will fail to supply the feeder. Among our advertisers, Messrs. Howard, Meadows, Raitt, Lee & Son, and others, all stock it.

"SOLILOQUIUM PUERI."

"A bee or not a bee?" Thus mused an urchin,
Feeling something creeping up his trousers.
"I wonder if 'twere better to let him wander
All unmolested o'er my naked surface
Than to dispel this grim anxiety
By fiercely striking him? To strike—to kill—
No more; and by a kill it means to guard
Against the anguish consequent upon
His charge in battle—'tis a consummation
Devoutly to be wished. To strike? to kill?
To kill! Perchance to miss! Aye, there's the rub!
For in that fierce attack upon the beast,
Suppose a misdirected blow should leave
Him little harmed? There's the respect
That makes calamity of such a course.
For who would risk conjunction with the rear
Of yellow-jacket, or the vespa tribe,
The hornet slim, or cumbrous humble bee?
And, worse than all, the merriment of those
Who eagerly are waiting the result.
When he himself might his *safetus* make
With one good slap? Who would chance take
To howl and dance should him the spirit move,
But that the dread of only maiming him—
Awakening in the foe such vengefulness
That there be no escape—withstay the hand,
And makes us suffer rather with suspense,
Than tempt unerring vengeance with a blow?
Thus danger does make cowards of us all,
And thus the native hue of certainty
Is sicklied o'er with the pale cast of doubt;
And schemes devised which might insure success
Are lost through hesitation."

SUPERSEDING QUEENS.

A queen should be allowed to remain as mother of a colony as long as she retains her fecundity; for prolificness, not age, should be the test in this matter. I never supersede a nice queen, no matter how old, until she shows signs of failing powers. We want queens for the eggs they lay; and for that reason, power of production, and not age, is the rule to follow. I would not keep even a *young* queen, if she did not lay up to a fair average, for there are a few queens that are not prolific enough to keep four frames supplied with brood as they ought to be; and where I find such, I always give their colonies something better to take their place. However, such queens as this last are the exception and not the rule; for the bees do not often allow such queens to remain in the hive long, especially if they are of the Italian variety.

After experimenting in the direction of superseding queen for years, I now decidedly prefer to leave it to the bees to decide when their queens are worn out, unless, by outside observations, I believe they are holding on to some unprolific young queen. As a general thing, the bees will make fewer mistakes in directing this delicate matter than the wisest apiarist is likely to make. I have had queens that were five years old do good duty till the commencement of their sixth year, when the bees would supersede them that autumn, the same as they often do in the autumn with queens commencing on their second, third, or fourth year.—G. M. DOOLITTLE, in *Gleanings*

THE LAYING OF A QUEEN.

A queen can lay 3,000 eggs a day, but not every day. Here are observations on a colony of bees I followed in Palestine, January to December, 1891. As nearly as I could make out, the colony numbered some 10,000 bees, January 1.

	Daily average.	Total.
January 1 to 20	100	2,000
January 20 to February 7 ...	666	11,988
February 7 to March 3 ...	700	16 800
March 3 to 18	2,333	34,995
March 18 to April 10 ...	2,600	57,200
April 10 to May 21	1,000	40,000
May 21 to June 17	2,111	56,997
June 17 to July 10	2,277	50,094
July 10 to August 3... ...	1,250	30,000
August 3 to 29	460	10,960
August 29 to September 13...	200	4,000
September 13 to October 14	115	3,000
October 14 to November 11	35	1,000
November 11 to December 10	28	1,000
December 10 to 31	0	—
Grand total		320,034

About the same at the end of the season as regards the number—20,000 bees. At all events, this gives us an average of seventy-six eggs a day for 365 days, or 1,760 eggs a day if we take the honey-flow season from March 3 to August 3. The colony did not swarm, and at the end of the season it was reduced to very nearly what it was in the beginning; 300,000 bees were hatched and passed away; the colony had produced nearly 180 lb. of honey. This honey was taken by the extractor, April 10; April 18, orange-blossom honey; June 13 to 19, chaste-tree honey; July 10 to August 3, thyme honey.—PH. J. BALDENSPERGER, in *Gleanings*.

UNITING WEAK COLONIES IN THE FALL.

When the time comes to unite I select the hive having the queen I wish to retain as the one to contain the united colony. I now open this hive and take out what combs I think will be necessary, leaving those containing the most honey, or otherwise, as the circumstances may direct, although it is seldom that united

colonies have too much honey, when those that are left, being sure the queen is on one of them, are placed next one side of the hive, as closely together as I wish them to be left for wintering.

The bees which are on the combs to be taken are now shaken off the combs and allowed to run into the hive, when, after closing, it is left as it is, ready to receive whatever is to be united with it.

I next go to the one or more colonies which are to be united with this first one ; and if they have a queen she is hunted out and disposed of as I desire, when all of the frames are removed but one, two, or three, in accord with the number of bees there are in this colony ; few being so small that only one comb is left, and in no case is a colony weak enough in bees to need uniting, unless they can crowd on three combs fixed as I am about to tell you.

The combs left are generally those containing the most honey, although some years there is little choice of combs on account of all being liberally supplied with honey. The combs (two or three) are now spread apart from 1 in. to 1½ in., and placed in the centre of the hive, when the hive is closed and the bees shaken off the combs taken out, so that they can run in with those left on the spread-apart combs. I fix any others that are to be united in the same way, in some cases putting as high as four or five in with the one having the queen, but not usually more than one, two, or three, according to the number of bees each contains.

I now wait till some cool, cloudy, raw, windy day, or some morning when there has been a frost, or nearly so, when I am ready for the uniting, which is very simple. The hive having the queen is uncovered, or, if the cover is a mat or quilt, this is rolled back till the comb next the vacant side of the hive is exposed, when I go, smoker in hand, to those ready to be united with it, blow a few dense puffs in at the entrance, quickly uncover the hive, blow in freely of smoke over and around the three spread-apart combs, when I place the first finger of each hand between the first two combs, and if three, the big fingers between the next, when the third and little fingers clasp over on the outside of the outside frame, the thumb tightening on the other side at the same time, when the three frames, bees and all, are lifted out all together and carried to the open hive having the queen, and all lowered into said hive in a body, the same being placed close up to the side of the exposed comb. The quilt is now rolled over all the frames but the last, when another and another lot is brought in the same way till the required number are in, when the hive is closed and the uniting accomplished.

If the day is cool and raw enough, or the night has been cold enough, the bees which are to be carried will be compactly clustered on and between the spread-apart combs, and after you get the "hang" of the thing a little you can carry them where you wish without any flying in the air or being left in the hive. Why only three combs are to be left under any circumstances is that a person cannot grasp more than these with his hands, and to separate the clustered bees in any place is to make a bad job in losing bees and have them fly all over you and out into the cold to perish. By removing the hive and stand from the old location no bees are lost by returning, although some will return and hover over the old spot on the first flight for a little time ; but you will soon find them with fanning wings at the entrance of their new home, which they accept ever afterward.—*Doolittle in Gleanings.*

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column

E. F. Talbot (St. Mellion).—*Location for Bees.* — If protection is afforded against strong winds, such as blow across entrances and prevent bees alighting, there is no reason why "the bottom of a field lying in a valley" should not do very well, notwithstanding that it is located in a Cornish valley. Anyway, in view of no better position, we should certainly try the one named.

J. Purdon (Ashton-under-Lyne). — *Uniting Bees in December.*—We should not think of causing a possible upset and perhaps "balling" of the queen in stock to which you propose to add the weak lot. Far better allow the latter to take their chance now, and see if they are worth uniting when bees begin to move in spring. If, however, they have been queenless for any length of time, the bulk will probably be so old and nearly worn out as to be useless for uniting.

Clydemen (Llandilo).—*Sugar for Bee Candy.* —Any refined white crystal sugar, guaranteed pure cane, will be suitable for candy making.

Apis (Doncaster).—*Yorkshire Association.*—The Secretary of the Yorks B.K.A., Mr. R. A. Grimshaw Highfield, Lady Pit-lane, Leeds, will give you particulars of the parent Association of the county and the district Associations connected with it.

Editorial, Notices, &c.

A PARTING WORD FOR 1896.

With to-day ends the record of another year's doings for the world at large, and brings to a close our twenty-fourth yearly volume. To-day, then, it is safe to say that the minds of many of us will be filled with various and sundry speculations regarding the future, and it is no less certain that there will be no end of good intentions and of "resolves to do better" and "to be so much," &c. Probably one's reflections will end with a dim kind of wondering where we shall be on the last day of 1897? A few (not many, we thankfully add) who began the year's march shoulder to shoulder with us, strong as the strongest, have "dropped out" of the ranks, stricken down, as it were, by a stray shot! But it does no good to dwell on incidents which only make up the sadness of life; the world will continue to "wag," die who may, and we should rather be expressing our thankfulness that the past year's obituary shows so few crossings out of names familiar to BEE JOURNAL readers.

On the other hand we have had pleasant reminders during the last few days that some veterans—whose names are now less often seen in print than in times gone by—are still to the fore, and withal still willing slaves to the old fascination which hangs around "The Bees!" These old hands—like ourselves—now carry Time's unerring way-signals in shape of grey beards and scantily-covered pates; but, while hugging the fireside somewhat closer—and, we fear, rather apt to shirk outside work when frost and fog hangs around—they still delight in reading of the bee-doings of to-day; still declare that their happiest times have been spent within sound of "the bee-hives' hum." Then, what memories they (and we) have for the days of big harvests; of prize-winnings at shows; of bee-adventures and exploits; of mishaps, great and small (no matter how disastrous, they only make us laugh now!); and all the other varied bee-experiences which in later life go to make up many a happy evening's chat with a brother bee-keeper. This is what so surely constitutes the brotherhood of the craft. Long may it continue to bind together all that is good among us!

It is also to us a pleasant reflection—and, we hope, none the less so to our readers—that during the year now beginning there will be afforded an opportunity for bee-keepers becoming better acquainted with each other by means of the views of bee-gardens now appearing in our pages. To see a man's bees is half-way to becoming his friend; and next to seeing his bees is to get a glimpse of his hives, and read something about him and *them*. Just notice how artfully we are giving all of you an introduction to each other! Why, when you *do* meet—and the "shows" afford an opportunity for meeting—subjects for "talks" such as bee-men know how to enjoy are provided ready to hand.

Seriously, then, we are looking forward to 1897 as an eventful year; full of interest to all engaged in the craft. The biggest "Royal" show ever held seems getting within measurable distance of becoming an accomplished fact—*vide* schedule in advertisement columns—and we have only to see the now luxuriant crops of bee-forage bring forth the full promise of their early growth, in order to turn a good beginning into a no less satisfactory ending. That it may so turn out for all readers is the New Year's wish of THE EDITORS.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*"

BEES IN "WELLS" HIVES.

[2743.] As "copy" may be scarce this week, you may have room for my remarks. In working a "Wells" hive I have found more than once that the bees have refused to keep apart—after being hived. Last September I

put two lots of driven bees, headed by young queens, into a "Wells" hive; each lot was treated exactly alike, but the next day I found one side deserted by almost all the bees, they having joined forces with the lot in the other side, carrying with them the honey on two or three frames which had been given them the day before. I was helped by an experienced bee-keeper, who had bought me the driven bees, and we took every care, I thought, that the operation should be successful. I should like to know if this has been the experience of other bee-keepers, and, if so, can it be accounted for? I have put two *established* stocks into a "Wells" hive, and they settled and worked well. 2. I notice in your reply to "G. M. S.," 1621, last week, you say, in speaking of ventilation, that "on some July days it is quite a common practice with us to raise hives from their floorboards, &c." About June I always raise my hives sufficiently to allow a bee space the whole front of the hive and leave them so until the honey season is over. Am I to gather from your remark that this plan is only suitable for very hot days? I had no swarm last year, and I attributed this partly to the fact of my having given ventilation in this way. In addition to this I raised the roofs slightly and put wet cloths over them when it was very hot. To be constantly removing the wedges and replacing them would be troublesome, and, besides, I should think it would have a tendency to irritate the bees, a thing to be especially avoided. 3. The note on "Superseding Queens," on p. 519, is very interesting. May we understand from this that bees, as a rule, raise a new queen when it is found the old head of the colony is wearing out? If four frames filled with brood, say in the middle of May, is sufficient indication of the presence of a prolific queen, much anxiety on the point would be removed. Some writers in the B.B.J. apparently recommend that after the second year a queen should be always replaced with a younger one. Two or three years ago, impressed with this idea, I acted accordingly, and the result was that the hive that did the best that year was the one in which we failed to discover the old queen.

4. Some bee-keepers may have found a difficulty, as I have done, in getting the bees to clear up shallow frames at the end of the season. I should like to call attention to a most useful arrangement for this purpose, supplied to me by a manufacturer, which some may not have seen. A hole is cut in the board into which a Porter Bee-escape has been fixed, through which the bees enter the shallow-frame box; as soon as the frames are cleared this hole can be closed by sliding a piece of tin over it; and then the bees of course are obliged to go through the escape, and the box can be removed free of every bee.

5. Should any young bee-keeper have a difficulty in finding material for keeping their Smoker alight I would advise the use of an artificial-manure bag. It costs little or nothing and will burn one or two hours if once well lighted. I bought, two years ago, a lot of old things of Abbott, and amongst them were a few bags in which, I suppose, their "Little Wonder" was packed as they were all thus marked. That I found first rate material for use with a Smoker, far better, I think, than any carbolised cloth.—A.P.J., *Dec.* 28th.

SELF-HIVERS.

[2744.] I am very pleased to give my experience of Mr. Hole's self-hiver, which I found very satisfactory. I placed it on a hive of Carniolan bees when I saw signs of swarming, and had it examined every evening. The bees can pass freely out to gather, and return with their burthen without difficulty, and soon learn to depart and return without inconvenience, although, when the "hiver" is first placed on the hive, the bees are very much agitated and angry for a time. The first evening I examined the self-hiver I found in it only some drones. The next day, however, I observed a crowd of bees flying round until evening, when I had the swarm-box looked into and only saw a few, and a cluster of bees were discovered in the box with the queen in the midst. They were instantly hived with some frames containing stores—bees and brood—and became an excellent stock in a very short time. I cannot account for the majority of the bees deserting their queen and returning into the hive, except that the swarm-box was not examined until very late in the evening.

I can safely recommend Mr. Hole's self-hiver to every bee-keeper; it saves much trouble, and does its work well; he has much improved it by placing frames in it, so that no anxiety need be felt about the swarm if left overnight.—Emily Gore Cuthbert, *Montpellier House, Blackrock, December 21st.*

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

The apiary shown in illustration on p. 523 is that of Dr. Percy Sharp, at Brant Broughton, Newark-on-Trent. Dr. Sharp is a well-known and prominent bee-keeper in his county, and, besides filling the office of district secretary, is one of the experts to the Lincs. B.K.A. He also lectures on bee-keeping under the auspices of the Technical Instruction Committee of the Lincs. County Council, and holds the first class expert certificate of the B.B.K., of which association he is a member. So keen an interest does Dr. Sharp take in all that pertains to bee-keeping, that a considerable portion of his spare time is devoted to the pursuit.

In response to our request to be furnished with a few particulars regarding his apiary,

after explaining that the hives as shown are packed and roofs weighted down for winter, Dr. Sharp writes as follows :—

"The establishment of the apiary is of comparatively recent date. Five years ago as many hives were situated in my garden, near the house and close to the stable. But the situation was then most inconvenient, with growing crops all round, and work in the immediate vicinity of the hives often seriously impeded. At the end of that year, what was then a paddock was converted into an orchard and dug over, and to the farthest end of which, under shelter of the hedge, the bees were then removed.

"Despite our good resolutions with regard to cleanliness about the apiary, time after time the weeds got the mastery, and we found it impossible, with other work on hand, to keep them cleared. Moreover, there was no proper path through the orchard, and the mud was awful. The discomforts endured when manipulating, too, were great—mud, dirt, and damp everywhere. Having endured this for some time, during which my apiary increased slowly but steadily, as did my knowledge of, and delight in, the pursuit, I determined to make a really good stand for the hives and a firm path leading to them. I obtained from an adjacent yard about ten loads of waste and broken bricks ; these were broken up, leaving, of course, the smaller pieces on the top.

"Along the end of the orchard a space was thus covered about 7 ft. wide ; and down one side a path varying—owing to the irregularity of the hedge—from 4 ft. to 6 ft. wide.

"The whole was well rolled, and then, to prevent the weeds from growing through, this was sprinkled with boiling tar ; and on the top of all was placed a layer of sand, and an edging of tiles round to prevent the pieces working out.

"The hives have stood, as depicted, on this path for a year now, and I have every reason to be well pleased with the result. During the past season hardly any weeds have had sufficient hardihood to penetrate the path, though, of course, some twitch grew in from the hedge-bottom at the rear edge. A further dressing of boiling tar and sand will, I hope, prevent this in future. Water drains rapidly away, and there is always cleanliness and order throughout ; while any tool, small or large, accidentally dropped, is seen and recovered at once. As regards the hives themselves, they are of all shapes and patterns *outside*, but the frames and inside parts are interchangeable of course. There were at one time two styles of frames, broad-shouldered and metal-ended ; the former are now, however, eliminated."

DR. PERCY SHARP'S APIARY, BRANT BROUGHTON.

"SWARMING."

ITS CAUSE AND PREVENTION.

[We received the following inquiry, which we forwarded to Mr. Robbins for reply.—EDITOR *American Bee Journal*.]

I have read in the BRITISH BEE JOURNAL an article copied from the *American Bee Journal*, by George F. Robbins, entitled "Swarming: its Cause and Prevention." In this Mr. Robbins advises "removing the brood." Now will Mr. Robbins tell a beginner a little more still? Where does he put the brood when he removes it?—F. M. G.

The remark in that article to which the correspondent refers is this:—

"3rd. Remove the brood a short time before the swarm is likely to issue—perhaps a week, more or less."

Notice, I said that this is one of "four methods" for prevention of swarming, for each of which some success is claimed. Removing the brood and replacing with empty combs, or with frames empty of comb, will usually prevent swarming—there is no doubt about that. But I want to say here that I do not practise it very much, nor recommend it very strongly. It is laborious, especially if the combs are replaced with empty frames, as in that case every frame of brood and honey should be taken out. If combs are used, and the honey-flow is of long continuance—three weeks or more—the process must be repeated, as the combs soon become filled with brood and honey, and we again have all the conditions that promote swarming. Another drawback is, if we are running for comb-honey, these combs serve as ready-made receptacles for storing honey, and make the bees slower to go into surplus cases. Still, the system is worth a trial. You might like it better than I do.

I believe I like best to use empty frames with an inch or so strip of foundation fastened to the top for a starter. In that case I always contract the brood apartment to five or six frames, put on a queen-excluding honey-board, and then a case of sections, in which I insert two or three sections of drawn comb for bait, if I have them. When I use combs I generally fill the brood-chamber to its full capacity.

I never find it difficult to dispose of the brood. I have practised the following four methods:—

1st. I always have a few weak colonies in the spring. These I confine to some three to five combs until they are strong enough to cover more, which is generally about the time I want to prevent swarming. This is about the beginning of the clover honey-flow, usually early in June. I simply take frames of brood enough to fill up these hives. I am not particular to shake off all the bees. Except early in the morning, there are always cells of thin, freshly-gathered honey, which will shake out and daub the comb and bees so as to start the latter cleaning things up, and effectually prevent fighting. If the weak colony contains one or two combs having little or no brood or honey, I take them out and put them into a hive from which I am removing brood, if I am filling it up with combs. If the colony is very short of bees, I carry more bees with the frames of brood.

2nd. I rear nearly all my queens from one or two that I have selected for that purpose, and at this time in the year I am wanting nuclei in which to insert queen cells from those chosen breeders. To form them I take two or three frames of brood and bees from a colony likely to swarm, put them into an empty hive—aiming, of course, not to carry away the queen—and insert it all between two combs. If I am pushed for room for these combs, I put more in a hive than the number above given. I prefer not to have very many bees in a nucleus until after the young queen has mated, as the bees are more apt to swarm out with the queen when she goes out on her wedding flight, if there are very many of them.

3rd. If I have neither of the above uses for brood-combs, I simply form new colonies by shaking about two-thirds of the bees off the combs and putting them into an empty hive. I have sometimes allowed them to rear their own queen, sometimes giving them a cell. I have, however, done very little of this at all.

4th. While I work in the main for comb-honey, I always aim to produce some extracted honey. I usually have a few colonies, including nuclei, in which the young queen has gone on laying, that cannot conveniently be made strong enough to go into empty supers by simply filling up the brood-chamber with brood and the few adhering bees. So I add an upper storey, generally putting a queen-excluder between, and fill it up with these combs. As the bees in this upper storey hatch out the combs are filled with honey, and in time I have a whole set of frames full of honey to extract. I am not always particular when practising this system to take bees enough along to care for the eggs and unsealed larvæ. Bees hatching from such brood are of little or no use usually during the early honey harvest, and only become consumers during the long dearth of summer.

I said that I did not practise removing the brood to prevent swarming very much; in fact, I have usually allowed my bees to swarm, and disposed of the brood and remaining bees in the ways I have described above. For the last three years I have had almost no swarming on account of the poor honey seasons. I expect to try to prevent swarming when a season comes that bees will swarm, but I aim to practise chiefly the shifting device, as described in my article in the *American Bee Journal* for April 9, 1896.—GEO. F. ROBBINS, in the *American Bee Journal*.

Echoes from the Hives.

Erith, Kent, December 25th.—This is X'mas day, not at all the sort of day one expects at this season, but a warm, bright, sunshiny day, and I am sitting in the bee garden listening to the hum of the bees and the bells of the old parish church away in the distance. 'Tis a merry sound this hum of the bees and takes one back to the long, bright, sunshiny days of summer. What a time the bees are having! glad no doubt to get out of their stuffy hives and to have another look at the blessed sun before the two most trying months are on them. Bees of all stocks are flying, the "Wells" hives look the strongest, and one lot seems even to be carrying in water, so quickly do they rush in and out. These bright days are so rare at this season that the bees seem very anxious to make the most of them. Wishing all bee-keepers a prosperous New Year.—BRITON.

Queries and Replies.

[1625]. *The Best Size for Nucleus Hives.*—Can you or any of your readers kindly answer the following question: Supposing that in spring a queen is reared in a nucleus with the intention that, if the parent hive becomes queenless, the queen in the nucleus hive may serve to re-queen it, and if this does not occur the nucleus may, at the close of the season, be united to the parent hive, one of the queens being got rid of, what is the minimum number of frames (Association size) that the nucleus hive should be able to hold in order to fulfil the above purpose? It is said that if the nucleus is too small the queen will not stay in it. Some writers advise using an ordinary full-sized hive, with the space reduced by division boards, and, of course, permitting indefinite expansion. But empty hives may not always be available in a well-regulated apiary, where all colonies are kept strong. And it seems lavish to duplicate the number of ordinary hives in an apiary in order to accommodate nuclei, since ordinary hives are adapted to contain strong colonies, and for wintering and supering, &c., whereas the nucleus hive is only required to hold a few frames for the summer. Some writers say that two frames are enough for a nucleus, others advise three frames, and others four. If a hive is specially made to accommodate a nucleus, and for no other purpose, it is desirable that it should not be larger than is necessary. Experience alone can decide such a question. Would a nucleus hive containing two frames be practically sufficient to keep the queen at home and the nucleus going from June to September?—APICOLA, *Oxford, December* 28.

REPLY.—A nucleus hive should not hold less than three frames. Four would, no doubt, give a stronger colony in September.

[1626.] *The Utility of Porches.*—Are there any sufficient reasons for putting porches on bee-hives? If placed low enough to prevent rain blowing in at the flight hole they would scarcely be ornamental, and they are usually fixed too high to serve that purpose. In any case, the injury to the timber in and around the flight hole from wet blown in can easily be prevented by the use of paint or protective solutions. On many occasions, and especially in the swarming season, the porch is a nuisance, because it hinders access to the flight hole, and the employment of appliances for dealing with swarms, queens, drones, robber-bees, and for other purposes. Some experienced bee-keepers, such as Mr. Root, object strongly to the porch. Can any practical reason be urged in its favour?—APICOLA, *Oxford, December* 28.

REPLY.—Those who prefer a porch (ourselves included) see their utility, otherwise they would discard them, but for those who deem them of no service there is no reason on earth why they should not dispense with them. It is simply a matter of opinion.

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

S. M. (Sheffield).—The "rising" or bubbling up of extracted honey denotes that fermentation is being started. If used at once, however, the honey is quite good for household consumption. Pressed heather honey is usually so full of air-bubbles as tends very much to set up fermentation, unless the honey is fully ripe.

W. HOULDER (Methwold).—*Poisonous Honey.*—No good purpose that we can see would be served by noticing the paragraph referred to. Any attempt to refute it would only add to the publicity of the report. Misleading statements, like the one referred to, are best allowed to meet the eyes of as few people as possible, and this makes it desirable to leave them alone.

Royal Agricultural Society of England.

MANCHESTER MEETING, 1897,

Commencing Wednesday, June 23rd, and Closing Tuesday, June 29th.

PRIZE SHEET for HONEY, HIVES, &c.

HONEY.

SPECIAL COUNTY HONEY-TROPHY COMPETITION.

*Class 375.—For the best and most attractive Display of Comb and Extracted Honey, and such Honey products as Wax, Mead, and Vinegar, arranged in Trophy form on a space not exceeding 4ft. 6in. square by 5ft. in height. The gross weight of the Honey (which may be of any form and of any year) must approximate 300 lbs.

1st Prize, £15 and Silver Medal.
2nd Prize, £10 and Bronze Medal.
3rd Prize, £5 and Bronze Medal.
4th Prize, £3 and Bronze Medal.
5th Prize, £2 and Bronze Medal.

*Class 376.—For the best Twelve 1-lb. Sections of Comb Honey, gathered during 1897. First Prize, 20s.; Second Prize, 15s.; Third Prize, 10s.

Class 377.—For the best Six 1-lb. Sections of Comb Honey, gathered during 1897. First Prize, 15s.; Second Prize, 10s.; Third Prize, 5s.

Class 378.—For the best Twelve 1-lb. Sections of Comb Honey, gathered during 1896 or in any previous year. First prize, 20s.; Second Prize, 15s.; Third Prize, 10s.

*Class 379.—For the best Twelve 1-lb. Sections of Comb Heather Honey, of any year. First prize, 20s.; Second Prize, 15s.; Third Prize, 10s.

Class 380. For the best Three Shallow Frames of Comb Honey, for extracting, gathered during 1897. First prize, 20s.; Second Prize, 15s.; Third Prize, 10s.

Class 381. For the best exhibit of Light-coloured Extracted Honey, in jars not exceeding 2 lb. each, gathered during 1897; approximate weight, 12 lb. First Prize, 20s.; Second Prize, 15s.; Third Prize, 10s.

*Class 382.—For the best Exhibit of Dark-coloured Extracted Honey, in jars not exceeding 2 lb. each, gathered during 1897; approximate weight, 12 lb. First prize, 20s.; Second Prize, 15s.; Third Prize, 10s.

*Class 383.—For the best Exhibit of Extracted Heather Honey, in jars not exceeding 2 lb. each, gathered during 1896; approximate weight, 12 lb. First Prize, 20s.; Second Prize, 15s.; Third Prize, 10s.

Class 384. For the best Exhibit of Granulated Honey of any year, in jars not exceeding 2 lb. each; approximate weight, 12 lb. First Prize, 20s.; Second Prize, 15s.; Third Prize, 10s.

MISCELLANEOUS.

Class 385.—For the best Exhibit of not less than 3 lb. of wax. First Prize, 15s.; Second Prize, 10s.; Third Prize, 5s.

Class 386.—For any practically Useful Invention connected with Bee-keeping, introduced since 1895. First Prize, 15s.; Second Prize, 10s.; Third Prize, 5s.

Class 387.—For the best Exhibit of Honey Vinegar, ½ gal., in clear glass bottles. First Prize, 15s.; Second Prize, 10s.; Third Prize, 5s.

Class 388.—For the best exhibit of Mead, ½ Gallon, in clear glass bottles. First Prize, 15s.; Second Prize, 10s.; Third Prize, 5s.

Class 389.—For the most Interesting and Instructive Exhibit of any kind connected with Bee Culture, not mentioned in the foregoing Classes, including Articles of Food or Medicine in which Honey is an ingredient. First Prize, 15s.; Second Prize, 10s.; Third Prize, 5s.

APPLIANCES.

*Class 390.—For a Collection of Hives and Appliances, to consist of the following articles:—(Open to Manufacturers of Bee Appliances only, being Articles sold in their usual way of trade). Three Frame Hives complete. [*Note.*—These Hives must be fitted with arrangements for Storifying]; 1 pair of Section Racks fitted with Sections; 1 Extractor, 1 slow Stimulating Feeder, 1 Rapid feeder; 1 Smoker or other Instrument for quieting Bees; 1 Super Clearer; 1 Veil; 1 Swarm Box for travelling purposes; 1 Nucleus Hive for travelling; 1 travelling Crate for Comb Honey; and other distinct articles not specified, at the discretion of the Exhibitor. The whole to be staged by the Exhibitor or his representative on 50 superficial feet. Price to be affixed to each article. No articles must be added to the collection, nor any portion of the Exhibit removed during the Show. First Prize, £4, Second Prize, £2; Third Prize, £1.

Class 391.—The best Observatory Hive, of not less than two Frames with Bees and Queen; each comb to be visible on both sides. First Prize, £1 10s.; Second Prize, £1. (N.B.—The hive must be provided with arrangements for the flight of the Bees during the time of the Show).

Class 392.—For the best and most complete Frame Hive, for general use, unpainted. First Prize, £1; Second Prize, 15s.; Third Prize, 10s.

Class 393.—For the most complete and inexpensive Frame Hive for Cottager's use, unpainted, price not to exceed 10s. 6d. First Prize, £1; Second Prize, 15s.; Third Prize, 10s.

Class 394.—For the best Honey Extractor. (Prizes offered by Mr. T. W. Cowan). First Prize, 15s.; Second Prize, 10s.

The Prize Money in Classes marked thus * is contributed by the Manchester Local Committee.